

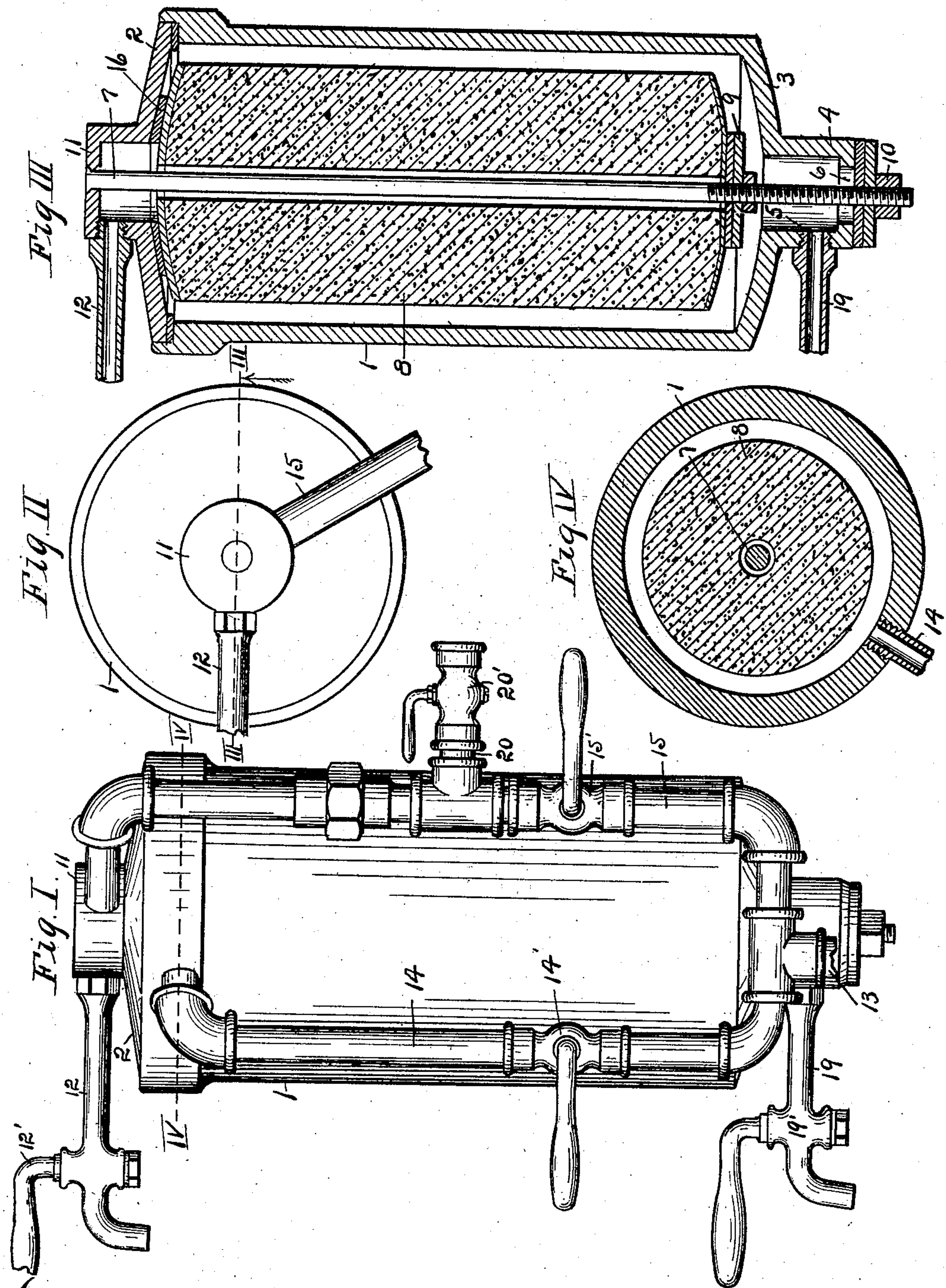
No. 844,417.

PATENTED FEB. 19, 1907.

A. J. SHERIDAN.

FILTER.

APPLICATION FILED JULY 17, 1906.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## FILTER.

No. 844,417.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed July 17, 1906. Serial No. 326,565.

*To all whom it may concern:*

Be it known that I, ANDREW J. SHERIDAN, a citizen of the United States, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Filters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My present invention relates to a filter, and has for its object to provide a device of the class described which may be easily and quickly attached to and removed from a source of water-supply and which may be easily and quickly cleansed of the impurities withheld by it from the water passing there-through. In accomplishing this object I have provided the improved details of structure which will presently be fully described, and pointed out in the claim, reference being had to the accompanying drawings, forming part of this specification, in which like reference-numerals refer to like parts throughout the several views, and in which—

Figure I is a view in side elevation of a filter constructed according to my invention. Fig. II is a top plan view of same. Fig. III is a vertical sectional view on the line III III, Fig. II. Fig. IV is a transverse sectional view on the line IV IV, Fig. I.

Referring more in detail to the parts, 1 represents the filter jacket or cylinder, which is provided with the head 2, which head has a close connection with one of the cylinder ends. The bottom 3 of cylinder 1 is provided with a depending extension 4, having a central pocket therein communicating with the interior of the cylinder, and in said extension is a port 5 and central perforation 6, both opening into said pocket.

7 is a rod extending through the cylinder and through a central channel in the filter-stone 8, which stone the rod supports by means of a nut 9, having a threaded connection with the lower end of rod 7. Rod 7 projects through the perforation in the cylinder extension 4 and carries a nut 10, adapted to be tightened against the bottom of extension 4

for the purpose of firmly anchoring the rod and stone within the cylinder.

Head 2 is provided with an extension 11, having a central pocket, and 12 is a tube extending through a perforation in the side of extension 11 into communication with said pocket.

13 is a supply-pipe having the branches 14 and 15, branch 14 extending through the side of cylinder 1 near the top into communication with the annular chamber between the inner surface of the cylinder and the outer surface of the filter-stone, while pipe 15 extends through the extension 11 of head 2 into communication with the pocket in said extension.

16 is a packing-ring fitting between head 2 on top of stone 8 for the purpose of making a water-tight joint therebetween when the parts are properly assembled.

19 is an outlet-pipe having a threaded connection with extension 4 and communicating with the pocket in said extension.

12', 14', 15', and 19' are valves on the respective tubes controlling the inlet or outlet of water to the filter.

20 is a pipe opening from supply-pipe 15, through which filtered water may be conducted to a distance from the filter. 20' is a valve in pipe 20, which may be closed when it is desired to cleanse the filter by reversing the flow through the cylinder by closing branch 14 and opening branch 15.

When in use, the parts are assembled as shown and described and supply-pipe 13 connected with a suitable water-supply. When arranged for filtering, the valve 15' is closed, and cock 14' is opened to permit the flow of water into the outer chamber between the stone and the sides of the filter. The water flowing into this chamber is forced through the filter-stone into the central stone chamber and through the upper extension-pocket to tube 12, where its exit is regulated by the valve 12', the purification taking place during its passage through the stone. After the filter has been in use for some time the stone becomes clogged from the impurities in the water which adhere to it and cleansing is unnecessary. To accomplish this, I close valve 14' and open the valve 15', permitting the water to flow into the pocket in the upper extension 11 and through the inlet-chamber



and out through the stone into the outlet-chamber, carrying with it the foreign matter which has been retained by the stone during the filtering process, which impurities are  
5 carried down into the lower extension-pocket and out through tube 19, when the valve 19' is open for that purpose. By permitting the water to flow through pipe 14 while the tube  
10 19 is carrying off the impure water an additional cleansing force will be provided for the outer surface of the stone to aid in carrying off the foreign matter which has been expelled by the action just described. If it is  
15 desired to conduct the filtered water to a different apartment or to a distance, a suitable pipe is connected with pipe 20 and the flow controlled by valve 20'.

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

In a filter, the combination of a cylinder

having wells projecting from both top and bottom, a solid filtering-body located in said cylinder with a space between same and the inner surface of the cylinder at the sides and  
25 bottom, said body having a channel of small diameter extending through its longitudinal center, a rod extending through said channel and through the top and bottom of the cylinder, means on said rod for tightening said  
30 filtering-body against the top of the cylinder, a feed-pipe opening into the space between said cylinder and filtering-body, a feed-pipe opening into the well at the top of the cylinder, and an independent outlet-pipe opening from  
35 each of said wells, for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW J. SHERIDAN.

Witnesses:

J. T. ALLBRITAIN,  
A. M. MAXWELL.