No. 745,497. PATENTED DEC. 1, 1903.

H. Q. HOOD.

FILTER.

APPLICATION FILED AUG. 15, 1902. RENEWED APR. 9, 1903.

NO MODEL.

Fig. 1.

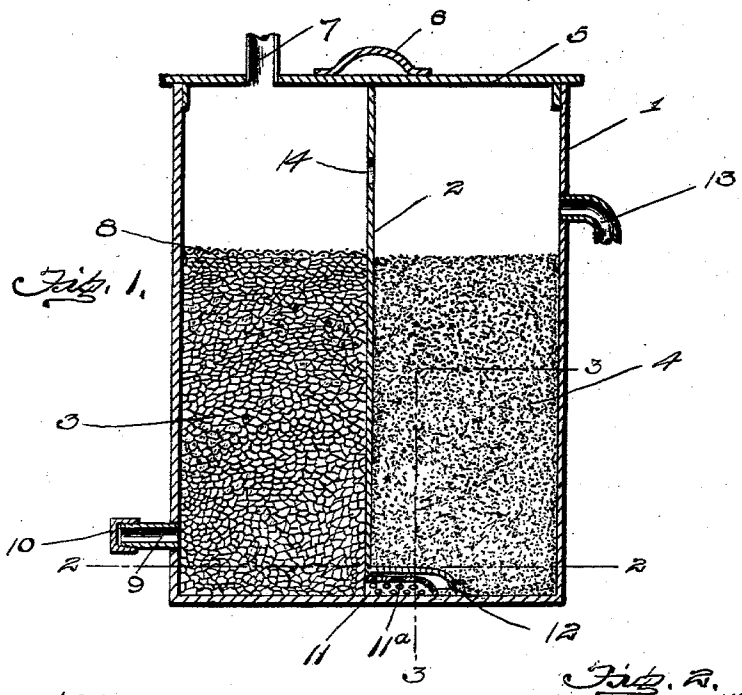


Fig. 3.

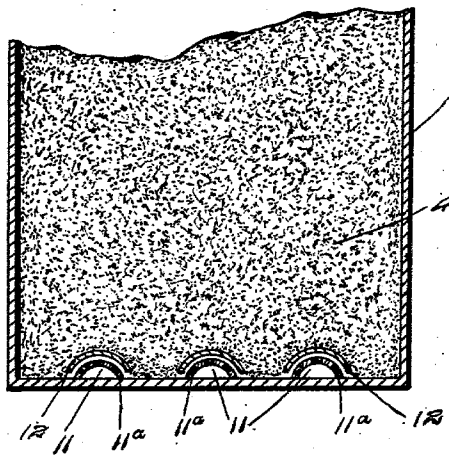
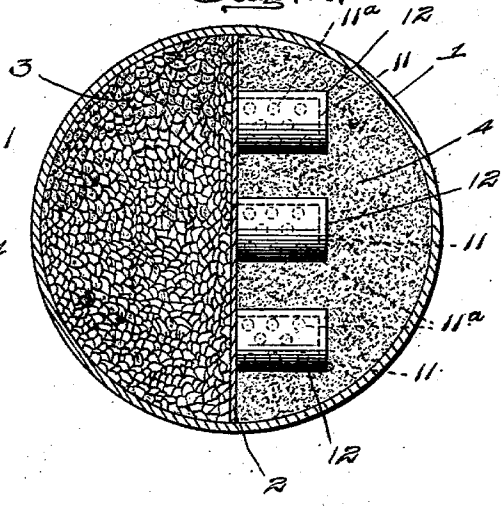


Fig. 2.



Inventor

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 745,497. Patented December 1, 1903.

UNITED STATES PATENT OFFICE.

HIRAM Q. HOOD, OF CARTHAGE, MISSOURI, ASSIGNOR OF THREE-FOURTHS TO JOHN P. McANDREWS, OF CARTHAGE, MISSOURI.

FILTER.

SPECIFICATION forming part of Letters Patent No. 745,497, dated December 1, 1903.

Application filed August 15, 1902. Renewed April 9, 1903. Serial No. 151,921. (No model.)

To all whom it may concern:

Be it known that I, HIRAM Q. HOOD, a citizen of the United States, residing at Carthage, in the county of Jasper and State of Missouri, 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.

My invention relates to filters of that type in which the water or other fluid is filtered by passing through a bed of granular material.

The object of the invention is to provide a device of this character which shall be simple of construction, and hence inexpensive of manufacture, and one which is particularly adapted for filtering rain-water as it passes from the roof to the cistern or reservoir.

A further object is to prevent any waste of such water in case of a heavy shower or continued rain.

With the above and other objects in view, which will readily appear as the nature of the invention is better understood, said invention consists in certain novel features of construction and combination and arrangement of parts, which will be hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view through my improved filter. Fig. 2 is a horizontal sectional view through the same on the line 2 2 of Fig. 1. Fig. 3 is a detail sectional view on the line 3 3 of Fig. 1.

Referring to the figures of the drawings, 1 denotes a tank or casing, preferably cylindrical, provided with a central vertical partition 2, which divides the tank into two compartments 3 and 4. The top of the tank is closed by a removable lid or cover 5, provided with a handle 6 and an inlet-pipe 7, through which the water passes in entering the compartment 3, which is packed with charcoal, gravel, or other filtering and purifying material. A removable screen or foraminous diaphragm 8 is placed in the compartment 3 on top of the bed of charcoal or gravel to catch the coarser particles of dirt and leaves carried in with the water from the roof. In the side of the casing near the bottom of the compartment 3 I provide a washout-opening 9, which is closed by the plug or cap 10.

The compartment 4 is packed with fine sand or other filtering material and is in communication with the compartment 3 through the perforated feeding channel-pipes 11, located on the bottom of the tank or casing and extending through the partition 2. The perforated portions of these pipes are covered by hoods or shields 12, spaced above the bottom of the tank, which prevent the sand in compartment 4 from entering and stopping up the perforations 11^a in the channel-pipes 11. In the side of the tank near the top of the compartment 4 is the outlet-pipe 13.

The partition 2 extends almost to the top of the casing and is provided at a point slightly above the plane of the outlet-pipe 13 with an overflow aperture or opening 14, which affords communication between the upper portions of the two compartments 3 and 4, so that during heavy rains when the water does not filter fast enough down through the granular bed in compartment 3, through the perforated channels 11, and up through the sand bed in compartment 4 it overflows compartment 3, passes through the aperture 14 in the partition 2 into compartment 4, and from thence through the outlet 13 without being filtered.

It will thus be seen that no water will be allowed to waste and that the filter is at all times ready for use and requires little or no attention. It will be further noticed that by providing the perforated channel-pipes 11 the water will have free circulation from one side of the tank to the other, and by providing the hoods 12 the sand will be prevented from filling up the perforations in said pipes.

When it is desired to clean the filtering-beds in the two compartments of the tank or casing, the covering 10 to the washout-opening 9 is removed, when the casing is filled with water, and the backflow of the same will carry off the mud and dirt which has settled upon the bottom of the tank, or, if convenient, the tank may be placed under a hydrant or pump and the water allowed to flow down through the filtering-beds and out through the opening 9.

From the foregoing description, taken in connection with the accompanying drawings, it is thought that the construction, mode of operation, and advantages of my improved filter will be readily apparent without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. A filter comprising a casing, a partition dividing said casing into two compartments, filtering material in said compartments, perforated channel-pipes affording communication between said compartments, hoods or shields covering said perforated channel-pipes, an inlet to one of said compartments, and an outlet to the other of said compartments, substantially as specified.

2. A filter comprising a casing, a vertical partition dividing said casing into two compartments, filtering material in said compartments, perforated pipes affording communication between the lower portions of said compartments, an inlet to one of said compartments, an outlet to the other of said compartments and an overflow connection between the upper portions of said compartments affording communication between the said compartments adjacent to the inlet, whereby during heavy rains the water will be allowed to pass directly from one compartment to the other without being filtered, substantially as described.

3. A filter comprising a casing partitioned to form two filter-compartments in communication at one end and having an overflow connection at the other end, an inlet-pipe to one of said compartments, and an outlet-pipe in the other of said compartments, the said overflow connection being located adjacent to said inlet-pipe whereby when the water reaches a certain level in the inlet-compartment it will pass to the outlet-compartment without being filtered, substantially as and for the purpose described.

4. A filter comprising a casing partitioned to form an inlet filter-compartment and an outlet filter-compartment, said compartments being in communication at their lower ends, and having an overflow connection at their upper ends, a coarse filtering material in said inlet-compartment, a screen located above said coarse filtering material, a fine filtering material in said outlet-compartment, a wash-out connection in the lower portion of said inlet-compartment, a removable cover, an inlet-pipe in said cover commuicating with said inlet-compartment, and an outlet-pipe in said outlet-compartment, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HIRAM Q. HOOD.

Witnesses:
EDITH HARKER,
MYRTLE L. DOME.