No. 705,447. Patented July 22, 1902.

W. H. SARGENT.

FILTER.

(Application filed Oct. 2, 1901.)

(No Model.)

Fig. 1.

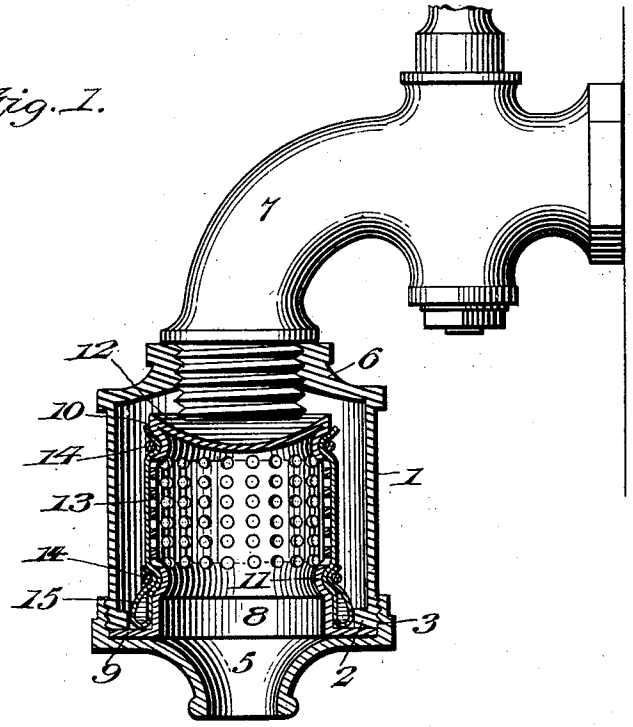
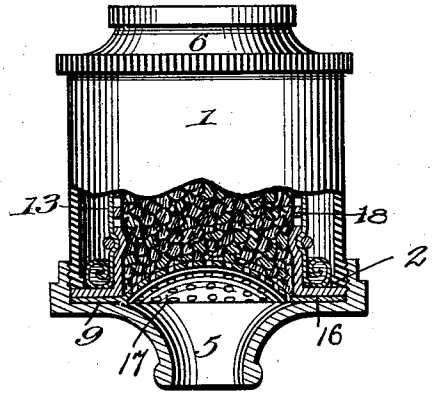


Fig. 2.



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WILLIAM H. SARGENT, OF CAMBRIDGE, MASSACHUSETTS.

FILTER.

SPECIFICATION forming part of Letters Patent No. 705,447, dated July 22, 1902.

Application filed October 2, 1901. Serial No. 77,306. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. SARGENT, a citizen of the United States, residing at Cambridge, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Filters, of which the following is a specification.

My invention relates to filters, and is more especially an improvement upon the device shown and described in Letters Patent No. 434,570, granted to me on August 19, 1890. Its primary object is to provide an effective device of this character having an extended filtering-surface and which may be quickly cleansed and renewed.

A further object of the invention is to provide a filter with a fabric covering so constructed as to adapt it to contain and be saturated with a chemical purifying agent.

A further object is to so construct the filtering-chamber as to adapt it to arrest heavy particles in the water and to break the force of the inflowing stream of water and insure an equal distribution thereof as it enters the filtering-chamber.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawings, which form a part of this specification, and its novel features will be defined in the appended claims.

In the drawings, Figure 1 is a view, partly in vertical section and partly in elevation, of my improved filter applied to a faucet and with the lower screen and the charcoal removed; and Fig. 2 is a similar view showing a modified form of chemical-holding pocket, the lower screen and the charcoal being shown in position in the filter.

The reference-numeral 1 designates the outer casing of the filter, formed with an internal annular flange 2 and externally threaded, as shown at 3, for the attachment of an internally-threaded funnel-shaped discharge-spout 5. The upper end of the casing 1 is formed with an internally-threaded neck 6 to adapt it to be readily attached to a faucet 7.

8 designates the filtering-chamber, formed at its lower end with an annular horizontal flange 9, upon which the flange 2 of the casing rests to support the filtering-chamber in position.

The chamber 8 is perforated for the greater portion of its length, and above and below the perforations are formed annular grooves 10 and 11, for a purpose to be explained hereinafter.

The top of the chamber 8 is depressed to form a concavity 12, which serves as a trap to arrest any heavy particles contained in the water and also as a spreader to distribute the water equally on all sides of the filtering-chamber.

Around the perforated portion of the chamber 8 is secured a sleeve or tube 13, of felt or other suitable fabric adapted to be saturated with any suitable purifying chemical. This covering is secured upon the chamber 8 by rings or wires 14, fitting within the grooves 10 and 11. I preferably employ split rings of resilient wire to secure the fabric in position; but this invention is not restricted to any particular form of fastening wires or rings.

The tube or sleeve 13 is extended below the lower ring 14 and turned up to form an annular pocket 15, adapted to contain a quantity of the chemical with which the fabric is saturated. This pocket may be formed by rolling up the lower end of the sleeve or tube, as shown in Fig. 2, or by turning the end of the tube up and securing it under the lower wire 14.

Clamped between the discharge-spout 5 and the flange 2 of the casing 1 is an annular flange 16, formed about a concavo-convex screen 17, extending across and into the bottom of the chamber 8. This screen serves to support a desired quantity of charcoal, quartz, or other suitable similar filtering material 18, arranged in the chamber 8. The fabric covering 13 affords an extended filtering-surface, and by its use the charcoal or other material in the chamber 8 will last much longer.

A further advantageous feature of the invention is that owing to the vertical position of the fabric deposits thereon are to an extent washed off by the flow of water, and therefore do not accumulate upon a horizontal filtering-surface.

While charcoal or other filtering material is shown in the chamber 8, this, together with the screen 17, may be dispensed with and the

fabric 13 and the chemical referred to relied upon solely for filtering the water.

I claim—

1. A filter comprising an outer casing, a perforated filtering-chamber formed with annular grooves above and below its perforations, a fabric covering for said perforations, devices fitting said grooves for detachably securing the fabric in position, and an annular chemical-containing pocket formed by said fabric at one end thereof and arranged outside the filtering-chamber.

2. A filter comprising a casing having an inlet and an outlet, a perforated casing therein forming a filtering-chamber, a screen interposed between the outlets of the chamber and casing, filtering material supported upon said screen, a fabric covering for the perforated casing, a pocket formed thereby at one end and adapted to hold a chemical, said pocket being within the outer casing and outside the perforated casing, and means for detachably securing said fabric to the perforated casing, the upper end of said casing being depressed at a point below the inlet to the outer casing.

3. A filter comprising a casing having an inlet and an outlet, a perforated casing therein forming a filtering-chamber, a fabric covering for the perforated casing, a pocket formed thereby at one end and adapted to hold a chemical, said pocket being within the outer casing and outside the perforated casing, and means for detachably securing said fabric to the perforated casing, the upper end of said casing being depressed at a point below the inlet to the outer casing.

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

WILLIAM H. SARGENT.

Witnesses:
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