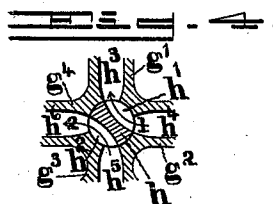
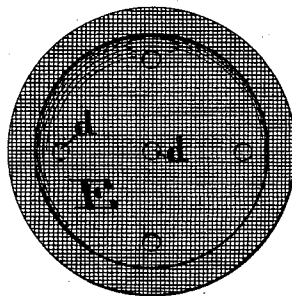
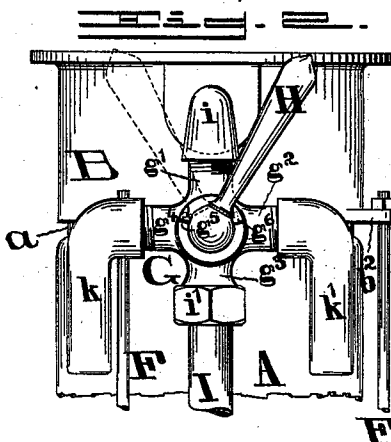


J. W. JARRETT.
FILTER.

Patented June 25, 1895.



R. Dale Spradlin
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John W. Garrett,
By his Attorney,
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UNITED STATES PATENT OFFICE.

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FILTER.

SPECIFICATION forming part of Letters Patent No. 541,755, dated June 25, 1895.

Application filed January 7, 1895. Serial No. 534,127. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. JARRETT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Filters, of which the following is a specification.

My invention consists of a novel filter constructed as hereinafter described and claimed.

Figure 1 is a vertical section, partly in full lines, of the improved filter complete, and Fig. 2 a front view of the upper portion of the same. Fig. 3 is a plan view of the distributor and sieve or strainer. Fig. 4 is a section, partly broken away, of the improved valve.

Referring to said drawings, the filter proper consists of a glass or other suitable shell or cylinder A provided with heads B B' each containing an inwardly projecting annular flange or ledge $b\ b'$ whereon are placed rubber or other gaskets $c\ c'$, and the ends $a\ a'$ of said shell or cylinder,—which may be of reduced diameter, as shown, or not,—have similar gaskets $a^2\ a^3$ thereon, and between the respective gaskets are interposed the separators or distributors D D' and the sieves or strainers E E', in the order named, the whole being clamped together in the relation shown in Fig. 1 by tie-rods or braces F, of which there may be any number, which rods or braces pass through an equal number of external lugs $b^2\ b^3$ on each of the heads B B' and are provided with enlargements f and nuts f' , or may have nuts at each end, for the usual purpose.

As will be observed, the separators or distributors D D' are concaved or dished and inverted relatively to the interior of the shell or cylinder A, having perforations $d\ d'$ in comparatively flat portions of the same which are substantially parallel with the said sieves; of which perforations there may be any number consistent with the result sought to be attained. The spaces between said separators or distributors and the ends of the respective heads B B' forming separating or distributing chambers B² B³, access whereof is had through the threaded openings $b^4\ b^5$ with which said heads are provided.

The improved cock or valve G consists of a casing g provided with four externally threaded radial arms $g'\ g^2\ g^3\ g^4$ and a stem h , with cavities or recesses $h'\ h^2$ therein, for registry

with the ports $h^3\ h^4\ h^5\ h^6$ in the respective arms, which stem terminates in a handle H. Onto the upper one of the arms, or branches, is screwed a connection i which at its other end is screwed into the upper one b^4 of the threaded openings mentioned and affords a means of communication between the valve and the upper distributing or separating chamber B², and to the lower arm g^3 of the cock or valve G is coupled, by a union i' , a vertical pipe I which at its lower end is threaded for reception of another connection i^2 , the other end of which latter is threaded as at i^3 whereby it is screwed into the threaded opening b^5 , thus establishing communication between said pipe and the lower distributing or separating chamber B³, while the side arms $g^2\ g^4$ of the cock or valve-casing, which contain the inlet and outlet ports, are provided with nozzles $k\ k'$, adjustable to any angle, for reception of hose, though, of course, these nozzles may be dispensed with and said side arms connected directly to any suitable supply and discharge pipes, as desired.

Now, assuming the filtering material to have been already placed in the filter with that one of the sieves or strainers E E' as a base which is lowermost,—it being understood that this filter may be stood on either end to equal advantage,—with the valve set in the position shown in Fig. 4 and the handle H in the position illustrated by the dotted lines in Fig. 2, where it is limited against further movement in that direction by the stop g^5 , the course of the unfiltered water will be from supply-nozzle k' , through ports $h^4\ h^3$, in the direction indicated by arrow 1, and through the connection i to the upper chamber B², when it passes through and undergoes a preliminary straining by the separator or distributor D, while having the force with which it strikes the sieve or strainer E diminished thus lessening the chances of the latter becoming choked up or having the foreign particles driven into the meshes thereof. After passing through the filtering material L, the water passes through the sieve or strainer E' and the separator or distributor D' to the chamber B³, thence out through connection i^2 , pipe I and ports $h^5\ h^6$, in the direction indicated by arrow 2, to the discharge-nozzle k .

For cleaning out the filter, as is at intervals

necessary with this and all other filters, the handle H of the cock or valve is thrown over into the position shown in full lines in Fig. 2, where it is limited against further movement in that direction by the stop g^6 ; bringing the stem of said cock or valve into a position the reverse of that shown in Fig. 4 and the concavities h' h^2 therein establishing communication between ports h^4 and h^5 , h^3 and h^6 , respectively, in which event the course of the water will be from nozzle k' to and through pipe I and connection i^2 to the lower chamber B³, from whence it passes through the openings d' , which are in a comparatively flat portion of the lower separator or distributor D' and is divided into as many separate jets or streams, in which condition the water strikes the sieve E' at substantially a right angle or vertically, agitating the same, and passes through the filtering material L, the upper sieve E and separator D, to the chamber B², wherefrom it seeks egress through connection i , ports h^3 h^6 and nozzle k to the discharge-pipe or tube.

From the disposition of the openings in the separators or distributors aforesaid, it will be seen that the filtering material will be quite thoroughly agitated by the application of the water thereto in this divided condition from beneath, insuring a perfect cleansing of the same without resort to other means or devices for securing such agitation, while the screen above such material serves to confine it within proper bounds.

If at any time it be desirable or necessary to cut out the filter altogether, the same may be accomplished by setting the valve half-way between the positions above described, or in the position shown in Fig. 1 of the drawings, as will be readily understood.

What I claim as my invention is as follows:

1. In a filter, the head B' connected therewith at the outlet end thereof, the sieve E' connected with said cylinder and head and having the filtering material seated thereon, and the distributor D' having perforations in a comparatively flat portion of the same and secured to said cylinder below said sieve, said parts being combined substantially as described.

2. A filter having a body with heads, stationary sieves connected with said body and heads forming chambers between said heads and sieves, pipes communicating with said chambers, and a distributor connected with the lower one of said heads and below the corresponding sieve, said distributor having a comparatively flat portion substantially parallel with said sieve with openings therein, said parts being combined substantially as described.

In testimony whereof I have hereunto set my hand this 3d day of January, A. D. 1895.

JOHN W. JARRETT.

Witnesses:

WM. H. POWELL,
WM. L. HOPPOCK.