No. 654,775. Patented July 31, 1900.

# W. G. WUICHET.

## FILTER.

(Application filed Nov. 23, 1899.)

(No Model.)

Fig. 1

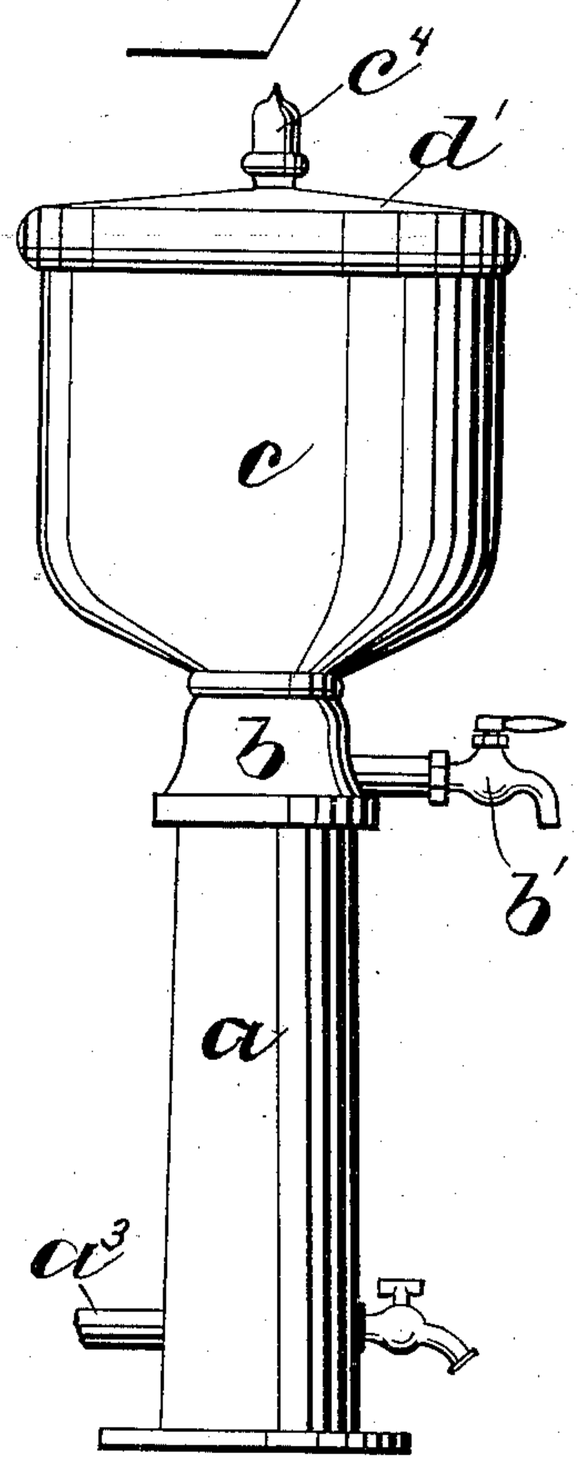



Fig. 2

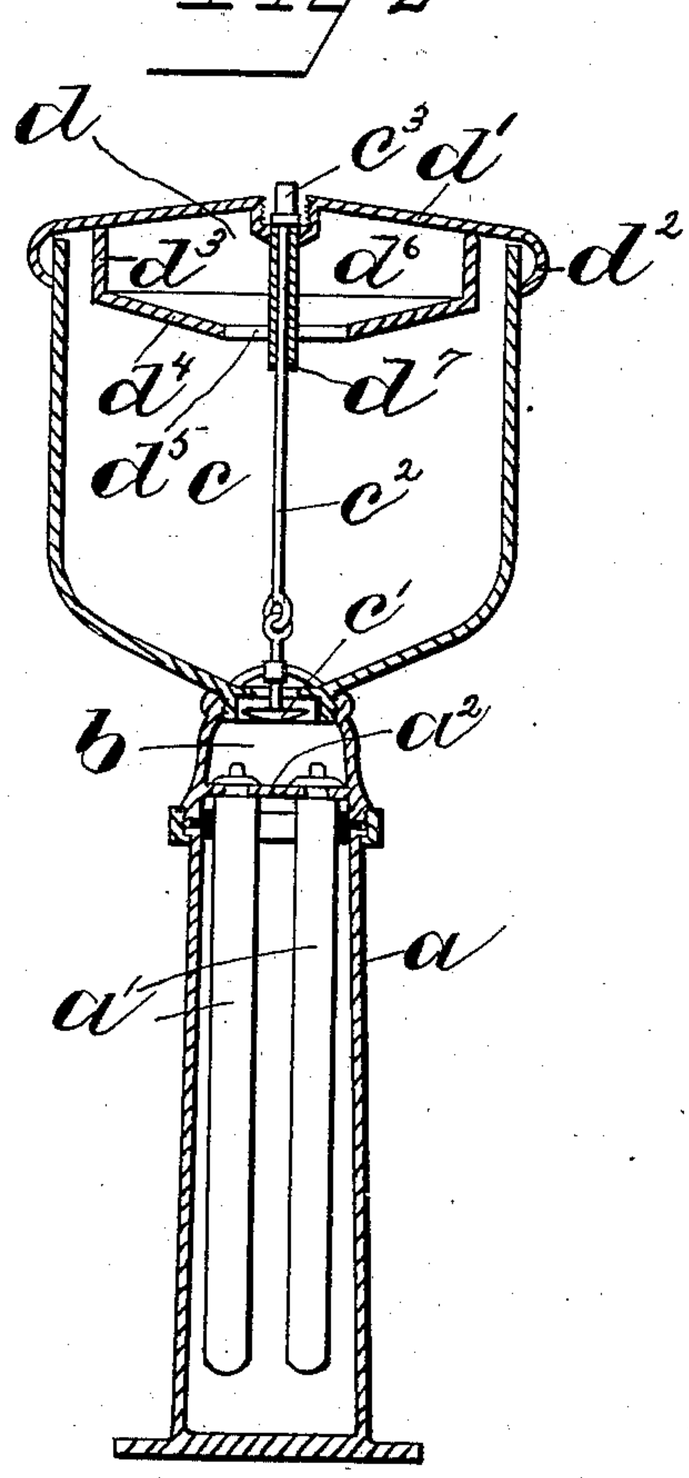



Fig. 3

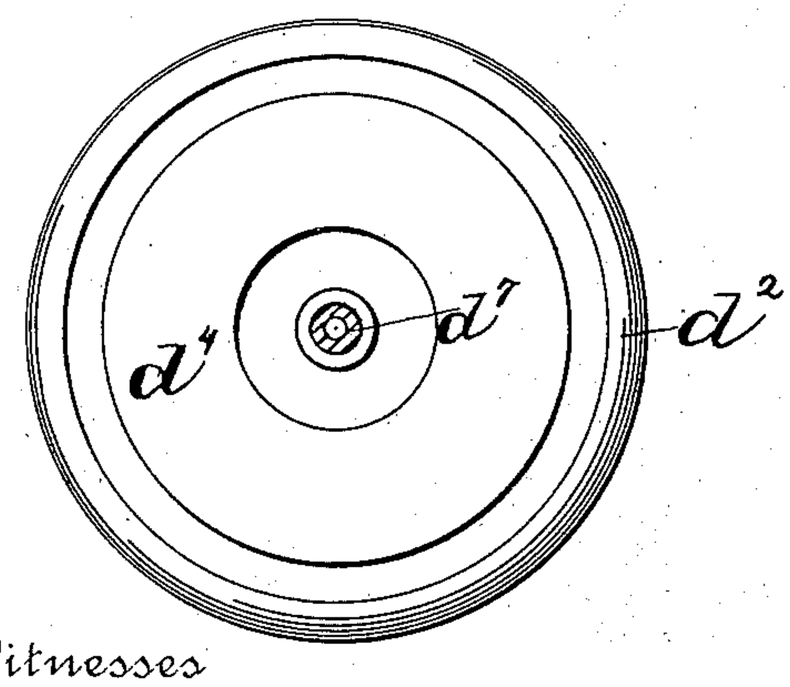
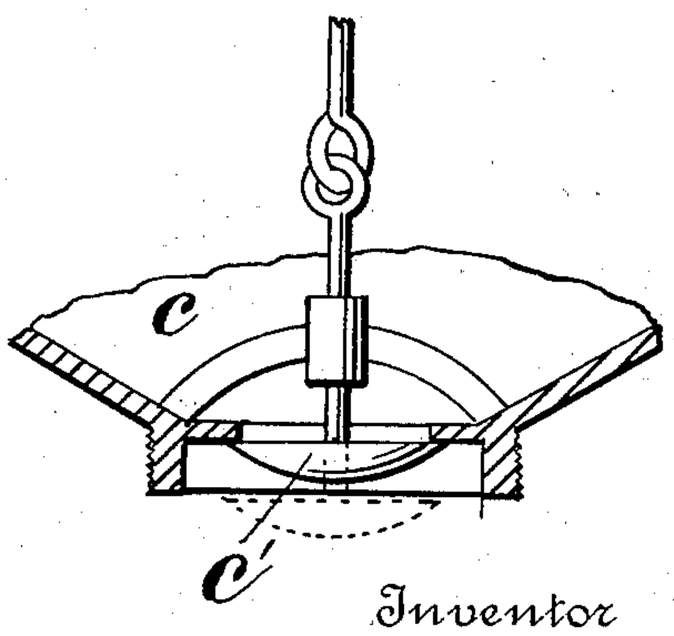



Fig. 4




Witnesses
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By his Attorney
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# UNITED STATES PATENT OFFICE.

WALTER G. WUICHET, OF DAYTON, OHIO, ASSIGNOR TO THE PASTEUR-CHAMBERLAND FILTER COMPANY, OF SAME PLACE.

## FILTER.

SPECIFICATION forming part of Letters Patent No. 654,775, dated July 31, 1900.

Application filed November 23, 1899. Serial No. 738,000. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER G. WUICHET, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Filters, of which the following is a specification.

My invention relates to improvements in filters, and it especially relates to that class of filters which employ a reservoir to receive the overflow from the filtering-chamber proper, and particularly to filters operating under the "Systeme Pasteur," although it may be used in connection with other filters.

The object of my invention is to improve and simplify the construction of the reservoir in connection with the float-valve therein which controls the supply of water thereto.

My invention consists in the constructions and combinations of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a filter embodying my invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a view of the under side of the reservoir-cover. Fig. 4 is a detail of the valve between the reservoir and filtering-chamber.

Like parts are represented by similar letters of reference in the several views.

In the said drawings, $a$ represents an outer cylindrical casing in which are located the filtering media $a'$, which consists in this case of tubes of the well-known Pasteur type, although any suitable filtering medium may be employed. These tubes are supported at their upper ends in a diaphragm $a^2$ and are adapted to discharge into an intermediate chamber $b$, which chamber is adapted to be screwed into the upper open end of the casing $a$. The water or other liquid to be filtered is admitted to the casing $a$ at $a^3$ under pressure, and after filtering through the filter-tubes $a'$ is discharged into the chamber $b$, from which it may be drawn by means of the faucet $b'$.

In order that a supply of filtered water may be kept on hand to meet the requirements, it is usual to provide a reserve reservoir $c$ above the intermediate chamber into which the filtered water from said chamber passes, the passage between said chamber and reservoir being adapted to be closed by a valve $c'$, which valve is connected through a rod $c^2$ to a float $d$, which float I construct as follows: The upper end of the reservoir is closed by a cover $d'$, which cover is provided with a downwardly-projecting curved flange $d^2$, the lower edge of said flange being adapted to snugly fit the outer periphery of the reservoir $c$, but free to move thereon. Connected to the under side of the cover is a rim $d^3$, which rim is provided with a bottom portion $d^4$, formed with an opening $d^5$ at its center, thus forming a chamber $d^6$ air-tight, except for the opening in the bottom thereof. Connected to the center portion of the cover $d'$ and extending down into the reservoir for a distance slightly below the opening $d^5$ is a hollow guide $d^7$, through which the valve-connecting rod $c^2$ passes, the end of said rod being extended through the cover and a nut $c^3$ secured thereto, which nut is inclosed by a cap $c^4$, screwed into the cover at this point, which is screw-threaded for that purpose, thus firmly securing the said rod to the cover by a connection which will be air-tight at the point thereof within the chamber $d^6$. The float, which consists of the cover and walls and bottom of the chamber $d^6$, is preferably constructed of light sheet metal and the parts soldered together.

In operation, the water after having filled the intermediate chamber $b$ will enter through the passage into the reservoir $c$ until it reaches the opening $d^5$ of the float-chamber $d^6$, when any further rise in the water from this point will tend to compress the air in the float-chamber, thus gradually raising the float $d$, which, through the medium of the rod $c^2$, will close the valve $c'$, and thus shut off the supply of water to the reservoir. As the water is drawn from the intermediate chamber the valve will open, thus allowing the water from the reservoir to escape into the intermediate chamber.

By this construction it will be seen that I am enabled to dispense with a separate float and also with an air-valve, the air being permitted to escape and enter at the point between the flange on the cover and the reservoir.

By the form of connection employed between the cover and valve the cover can be readily removed for cleaning or repairs.

Having thus described my invention, I claim—

1. In a filter, a reservoir connected thereto, a valve between said filter and reservoir, and a float connected to said valve, said float being adapted to extend over the top of said reservoir and form a cover therefor, substantially as specified.

2. In a filter, a reservoir connected thereto, and a valve between the filter and reservoir, a cover for said reservoir formed with a chamber on its under side, the bottom of said chamber being provided with an opening, and a connection from said cover to the valve, substantially as specified.

3. In a filter, a reservoir connected thereto, and a valve between said filter and reservoir, a cover for said reservoir provided with a chamber on its under side having an opening in the bottom thereof, a hollow rod or guide extending from said cover through said chamber to a point below said opening, and a connection from said valve to said cover extending through said hollow rod or guide, substantially as specified.

In testimony whereof I have hereunto set my hand this 13th day of November, A. D. 1899.

WALTER G. WUICHET.

Witnesses:
C. K. McCONNAUGHEY,
L. W. JAMES.