

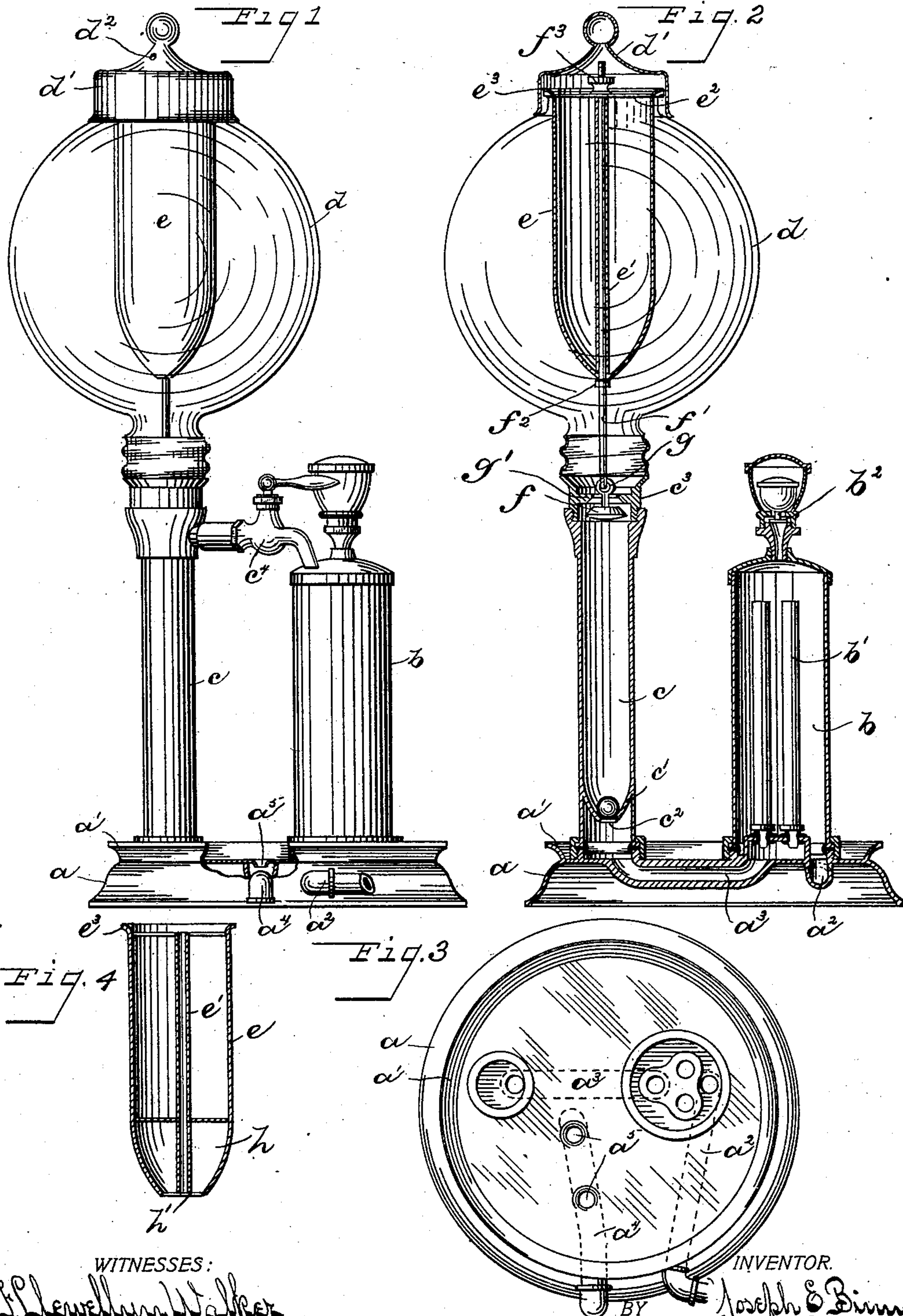
No. 713,197.

Patented Nov. 11, 1902.

J. E. BIMM:
COMBINED FILTER AND COOLER.

(Application filed Dec. 16, 1901.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOSEPH E. BIMM, OF DAYTON, OHIO, ASSIGNOR TO THE PASTEUR-CHAMBERLAND FILTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO.

COMBINED FILTER AND COOLER.

SPECIFICATION forming part of Letters Patent No. 713,197, dated November 11, 1902.

Application filed December 16, 1901. Serial No. 86,018. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. BIMM, 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 a Combined Filter and Cooler, of which the following is a specification.

My invention relates to filters, and more especially to a small filter employing the Pasteur system and having a reservoir in connection therewith.

The object of my invention is to provide an ice-carrying float that will limit the supply from the filter to the reservoir and cool the water in the reservoir. Ice being lighter than water, the float can be used for this purpose, thus making a novel, compact, and useful combination. I attain these and other objects by the constructions and combinations hereinafter described, and set forth in the accompanying drawings, in which—

Figure 1 is a side elevation of a filter and reservoir embodying my invention. Fig. 2 is a sectional view of same. Fig. 3 is a plan view of the basin, and Fig. 4 shows a modified form of the float in section.

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

In the said drawings, *a* represents the base, having a basin formed on the upper side thereof by the flange or rim *a'*. The water-supply is introduced through the inlet *a²* into the chamber *b*, which contains the porous filtering-tubes *b'*, having their outlet into the conduit *a³*, which leads to the intermediate chamber *c*. Within said intermediate chamber, near the bottom thereof, I form the cup *c'*, having the opening *c²* in the bottom, in which the ball-valve will readily seat itself for the purpose hereinafter mentioned. To the upper end of said intermediate chamber I attach the valve-casing *c³*, and upon this casing I mount the reservoir *d*, the connections being preferably made by screw-joints, as shown in Fig. 2. The ice-carrying float *e* is preferably formed cartridge-shaped, open at its large end and having an opening in its small end, and is provided with the tube *e'*, extending longitudinally through the same, being soldered to the walls of the float at its

small end and to a cross bar or plate *e²* at the large or upper end, forming a water-tight passage for the connecting-rod *f'*, which extends through the same from the valve *f* in the casing *c³*, and is provided with the fixed collar or seat *f²*, upon which the float rests, and at its upper end is screw-threaded and provided with a thumb-nut *f³*, which, being screwed down on the cross-bar *e²*, firmly attaches the float to the connecting-rod in a fixed position. The opening on the upper portion of the reservoir is of such size as to receive the float, and when the flange *e³* of the float rests on the neck of this opening the valve *f* is open. The cap *d'* covers the opening in the top of the reservoir and is provided with an air-hole *d²*. Water is drawn from the faucet *c⁴*, and the basin formed by the flange *a'* catches the drippings, and to prevent an overflow of the basin a waste-outlet *a⁴* is provided, having two holes *a⁵* from the basin, so that if the drinking-cup is placed over one the other will carry off the waste.

It will be seen that when the water rises in the reservoir to a sufficient height to lift the float by reason of its connection with the valve *f* the valve will be closed and the water cut off and that the ice in the float will cool the water in the reservoir. By providing a tube in the float for the passage of the connecting-rod the ice and the water from same are kept separate from the water of the reservoir. It will be further seen that by removing the cap *d'* and the thumb-nut *f³* the reservoir may be readily removed and refilled with ice, and to prevent the connecting-rod and valve from dropping into the intermediate chamber *c* the eye connection *g* between the rod and valve rests upon the flange *g'*. Furthermore, when the tubes *b'* are removed for cleaning and the water-supply is cut off the ball-valve will retain the water in the intermediate chamber and the reservoir.

To give the reservoir more buoyancy and make its action quicker, I have shown in Fig. 4 a modification, in which I have provided the air-chamber *h*, formed in the bottom of the float, open at the bottom and having a cross-bar *h'*, to which the tube *e'* is attached.

The valve *b²* at the top of the filtering-cham-

ber permits the air to escape while said chamber is being filled with water and automatically closes when said chamber is full.

The reservoir *d* is preferably made of glass and of globe shape, as shown in the drawings, so that the float-valve, which may be nickel-plated, may be seen, thus presenting a handsome appearance, pleasing to the eye, in addition to its novel and useful features hereinbefore described.

Having thus described my invention, I claim—

1. The combination of a reservoir, an inlet-valve for said reservoir, an ice-carrying float having a connection to said valve, and means, accessible outside of said reservoir, to attach said float to said connection, substantially as specified.

2. The combination of a reservoir, an inlet-valve for said reservoir, an ice-carrying float, a rod attached to said valve and means, including a screw-threaded connection, to attach said rod to said float, whereby said float may be detached from said valve-rod, substantially as specified.

3. The combination of a reservoir, an inlet-valve for said reservoir, a float having an ice-chamber therein, and a water-tight passage extending through said chamber, a rod attached to said valve extending through said passage and means, including a screw-threaded connection to tighten said float in a fixed position on said rod, substantially as specified.

4. The combination with a reservoir having an inlet-valve in the bottom and an opening in the top thereof, of a float extending into said reservoir having an open end with a flange adapted to rest on the edge of the opening on the top of said reservoir, a bar across the open end of said float, and a tube from said bar to the opposite end of said float forming a vertical water-tight passage through said float, a connecting-rod attached to said valve and extending through said passage having a stop to hold said float at its lower end and a screw-thread and nut above said

cross-bar to tighten the float on said rod, substantially as specified.

5. The combination of a filtering-chamber having a filter therein with a passage to an intermediate chamber, a reservoir attached to the upper end of said chamber having an opening in the top thereof, a float with a chamber having an open end extending out of the opening in said reservoir, an inlet-valve for said reservoir in the upper end of said intermediate chamber, means for connecting said valve and float, a retaining-valve in the lower end of said intermediate chamber, and a cap to cover the opening in the top of said reservoir and said float and having an air-hole therein, substantially as specified.

6. The combination of a filtering-chamber having porous filtering-tubes therein, with a passage to an intermediate chamber, a reservoir attached to the upper end of said chamber having an opening in the top thereof, a float with a chamber having an open end extending out of the opening in said reservoir, an inlet-valve for said reservoir in the upper end of said intermediate chamber, a rod attached to said valve and means including a screw-threaded connection to attach said rod to said float, and a retaining-valve in the lower end of said intermediate chamber, substantially as specified.

7. The combination of a reservoir and an inlet-valve for said reservoir, with a float having an ice-chamber in its upper portion, and an air-chamber in its lower portion, an air-tight passage extending through said chambers, a connecting-rod attached to said valve and extending through said passage, and means on said rod to attach said float to said rod, substantially as specified.

In testimony whereof I have hereunto set my hand this 12th day of December, A. D. 1901.

JOSEPH E. BIMM.

Witnesses:

THOMAS B. HERRMAN,
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