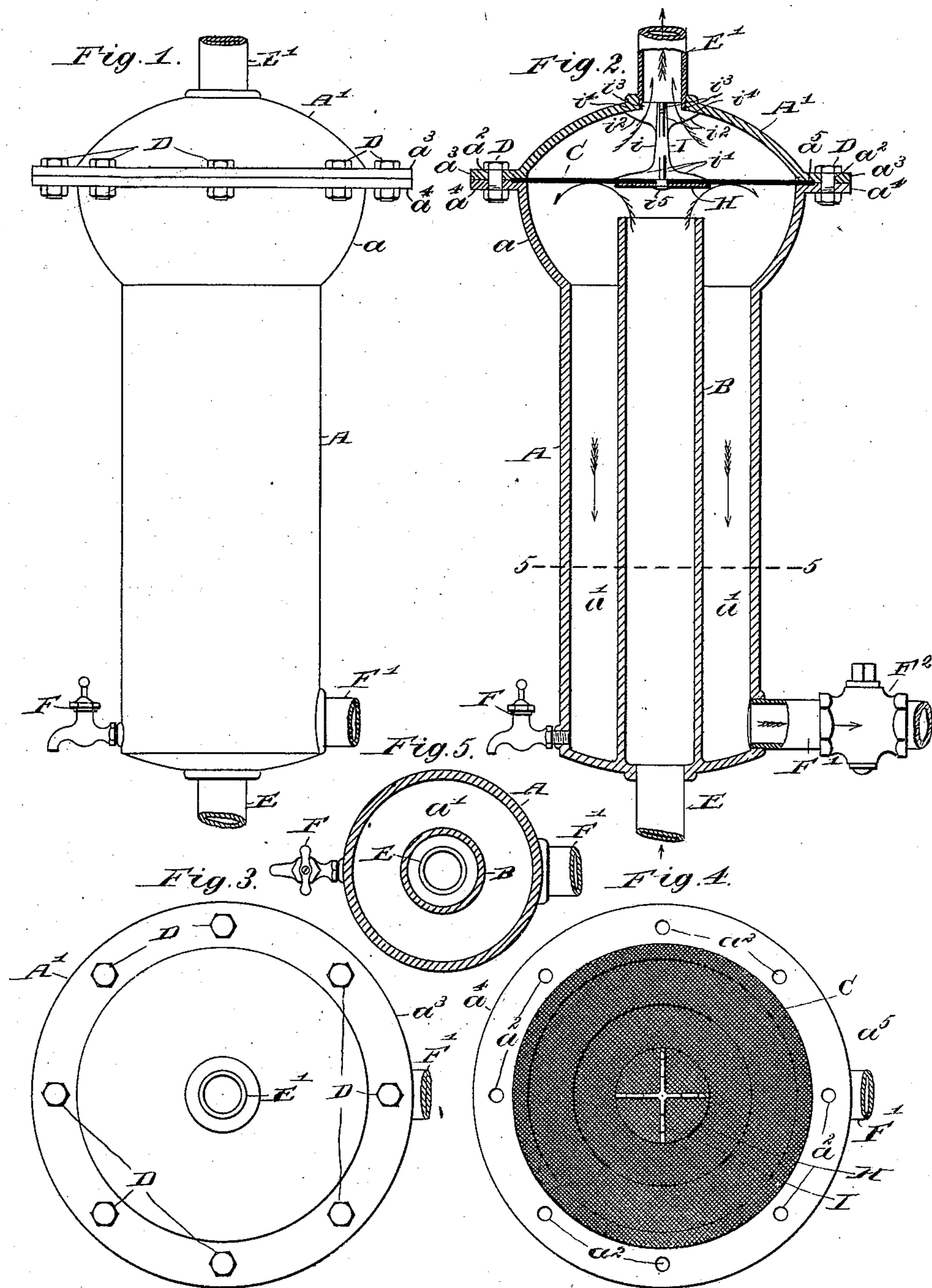


(No Model.)

C. E. & J. M. OSGOOD.
FILTER.

No. 574,161.

Patented Dec. 29, 1896.



Witnesses.
Kirkley Hyde.
Grace E. Hibbert.

Inventors.
Charles E. Osgood &
John M. Osgood,
By Albert M. Moore,
Their Attorney.

UNITED STATES PATENT OFFICE.

CHARLES E. OSGOOD AND JOHN M. OSGOOD, OF LOWELL, MASSACHUSETTS.

FILTER.

SPECIFICATION forming part of Letters Patent No. 574,161, dated December 29, 1896.

Application filed May 1, 1896. Serial No. 589,879. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. OSGOOD and JOHN M. OSGOOD, citizens of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Filters, of which the following is a specification.

Our invention relates to filters for water and other liquids, and comprises an outer chamber, a smaller inner chamber communicating with the said outer chamber at the top only, the supply-pipe entering the bottom of said inner chamber, a screen arranged above said inner chamber and extending across said outer chamber above said inner chamber, and a discharge-pipe leading out of said outer chamber above said screen.

Said invention consists in the devices and combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a filter embodying our improvements; Fig. 2, a vertical central section of the same; Fig. 3, a plan of the same; Fig. 4, a plan of the same with the cap or covering removed; Fig. 5, a cylindrical cross-section of the same on the line 5 5 in Fig. 2.

The outer chamber A is preferably cylindrical and enlarged at *a* at its upper end. The inner chamber B is also preferably cylindrical and concentric with the chamber A and may be cast in one piece with said outer chamber A, said chambers communicating only at the top of said inner chamber, and the space *a'* between said chambers serving to receive the impure and foreign matters separated from the water by the means hereinafter described.

Upon the top of the outer chamber proper, A, is placed a screen of perforated or foraminous material C, as fine wire-cloth, and upon the top of said chamber A is arranged a cap or cover A', said cap being secured to the body of the outer cylinder by means of bolts D, which pass through holes *a*² in external flanges *a*³ *a*⁴, with which said cap and outer chamber, respectively, are provided.

The liquid is introduced into the inner chamber B by means of the inlet-pipe E, connected to the street-mains or other source of supply, and is discharged by means of the

pipe E', which leads out of the cap A'. When water is drawn from the discharge-pipe E', the mechanical impurities in the water are retained by the screen C and fall into the space *a'* between the outer and inner chambers.

The accumulated dirt and impurities may be withdrawn from the space *a'* at such intervals as may be necessary by means of a waste-cock F, of any usual construction, inserted in the wall of the outer chamber A at the bottom thereof, or such dirt and impurities may be conducted from the space *a'* by means of a waste-pipe F', which may be connected with the pipes used to flush water-closets or to supply garden hose-pipes or sprinklers, or for any other purpose where the use of filtered water is not essential, so that the occasional use of such water-closet, hose-pipe, or similar conveniences would keep the space *a'* approximately clear of accumulations of sediment without direct effort for that purpose.

The waste-pipe F' may be opened and closed by a plug-valve of usual construction, as shown in Fig. 2 at F².

The bottom of the cap A' or the top of the cylinder A, or both, may have an annular recess *a*⁵ to receive the margin of the screen C and a gasket or water-tight packing. In order that the screen may not be bent or broken by the direct impact of the water issuing from the top of the inner cylinder B, a shield H, preferably of the same shape as a horizontal cross-section of said inner chamber and of at least as great diameter as said cross-section, may be secured below said screen immediately over the top of said inner chamber, and said shield may be supported by a brace I, Figs. 2 and 4, which consists of a central stem *i*, having thin radial wings *i*¹ at the bottom to rest upon the screen above said shield H and other thin radial wing *i*² at the top, the tops of said upper wings *i*² being cut away at *i*³ to enter and fit the discharge-pipe E' or discharge-orifice so closely as to support said brace, the shoulders *i*⁴ bearing against the under side of said cap A' and a screw *i*⁵ being driven up through said shield and screen into the bottom of said brace I, as shown in Fig. 2.

We claim as our invention—

1. A filter, comprising an outer chamber, a smaller inner chamber, communicating with

said outer chamber at the top only, a supply-pipe, entering the bottom of said inner chamber, a screen, arranged above said inner chamber and extending across said outer chamber above said inner chamber, and a discharge-pipe leading out of said outer chamber above said screen, as and for the purpose specified.

2. A filter, comprising an outer chamber, a smaller inner chamber, communicating with said outer chamber at the top only, a supply-pipe, entering the bottom of said inner chamber, a screen, arranged above said inner chamber and extending across said outer chamber above said inner chamber, a discharge-pipe leading out of said outer chamber above said screen, and a shield or plate arranged above said inner chamber to protect said screen from the direct impact of a liquid issuing from said inner chamber, as and for the purpose specified.

3. A filter, comprising an outer chamber, a smaller inner chamber, communicating with said outer chamber at the top only, a supply-pipe, entering the bottom of said inner chamber, a screen, arranged above said inner chamber and extending across said outer chamber above said inner chamber, a discharge-pipe leading out of said outer chamber

above said screen, a shield or plate arranged above said inner chamber to protect said screen from the direct impact of a liquid issuing from said inner chamber, and a brace to hold said screen in place, as and for the purpose specified.

4. A filter, comprising an outer chamber, a smaller inner chamber, communicating with said outer chamber at the top only, a supply-pipe, entering the bottom of said inner chamber, a screen, arranged above said inner chamber and extending across said outer chamber above said inner chamber, a discharge-pipe leading out of said outer chamber above said screen, a brace, secured in said outer chamber above said screen and bearing upon said screen, and a shield, arranged on the under side of said screen and with said screen secured to said brace, as and for the purpose specified.

In witness whereof we have signed this specification, in the presence of two attesting witnesses, this 24th day of April, A. D. 1896.

CHARLES E. OSGOOD.
JOHN M. OSGOOD.

Witnesses:
ALBERT M. MOORE,
KIRKLEY HYDE.