No. 846,748. PATENTED MAR. 12, 1907.

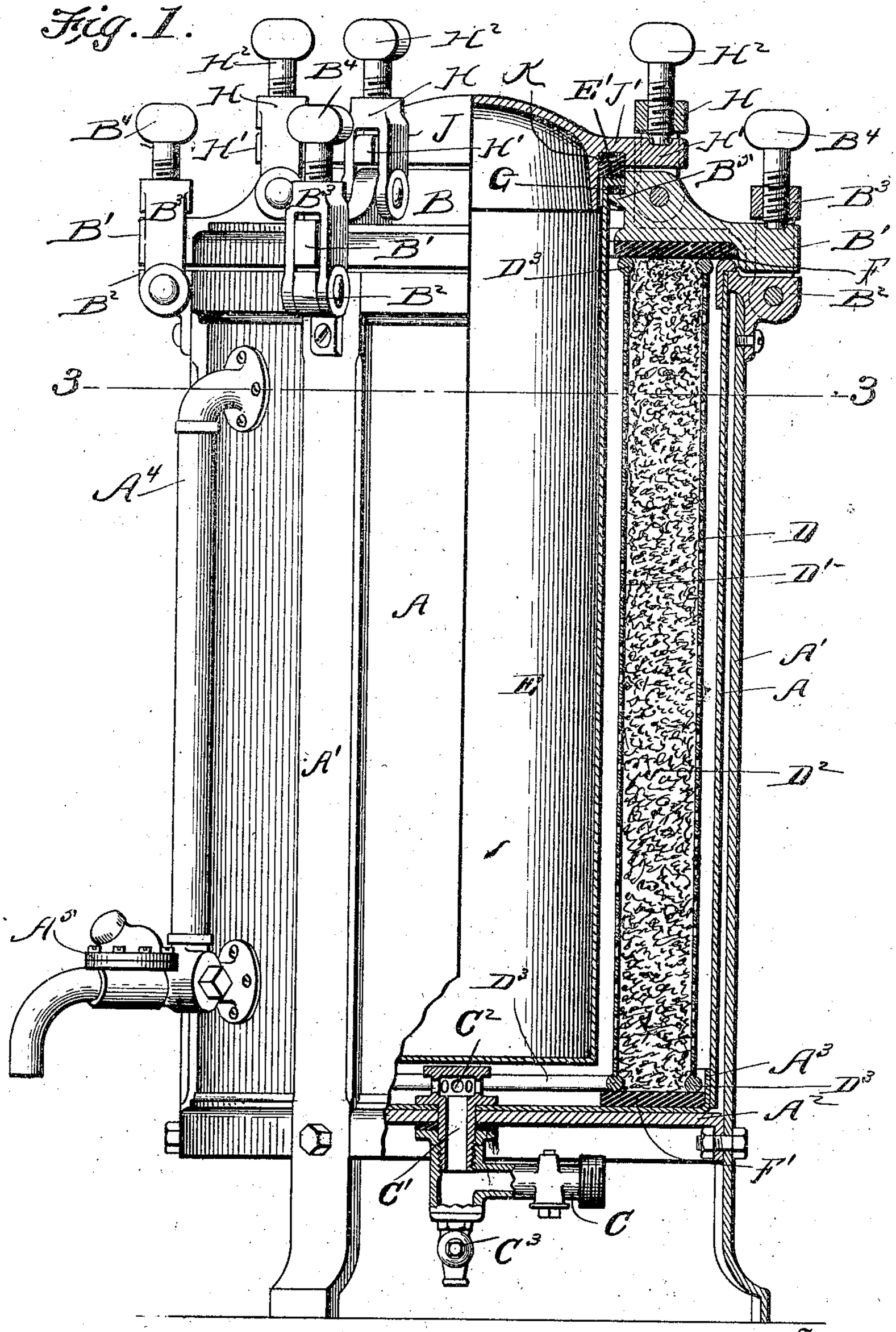
A. KLELL.

FILTER.

APPLICATION FILED DEC. 15, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

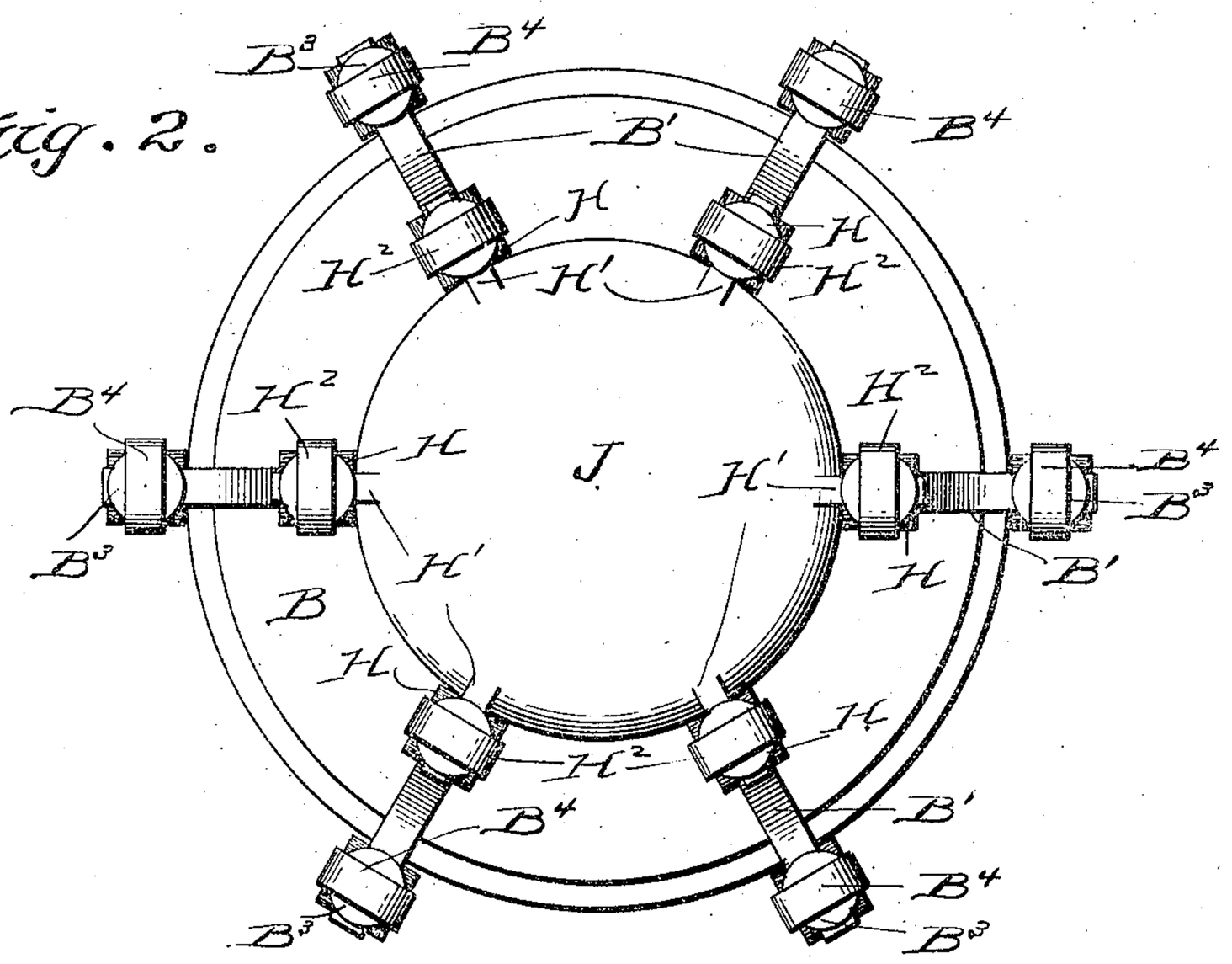
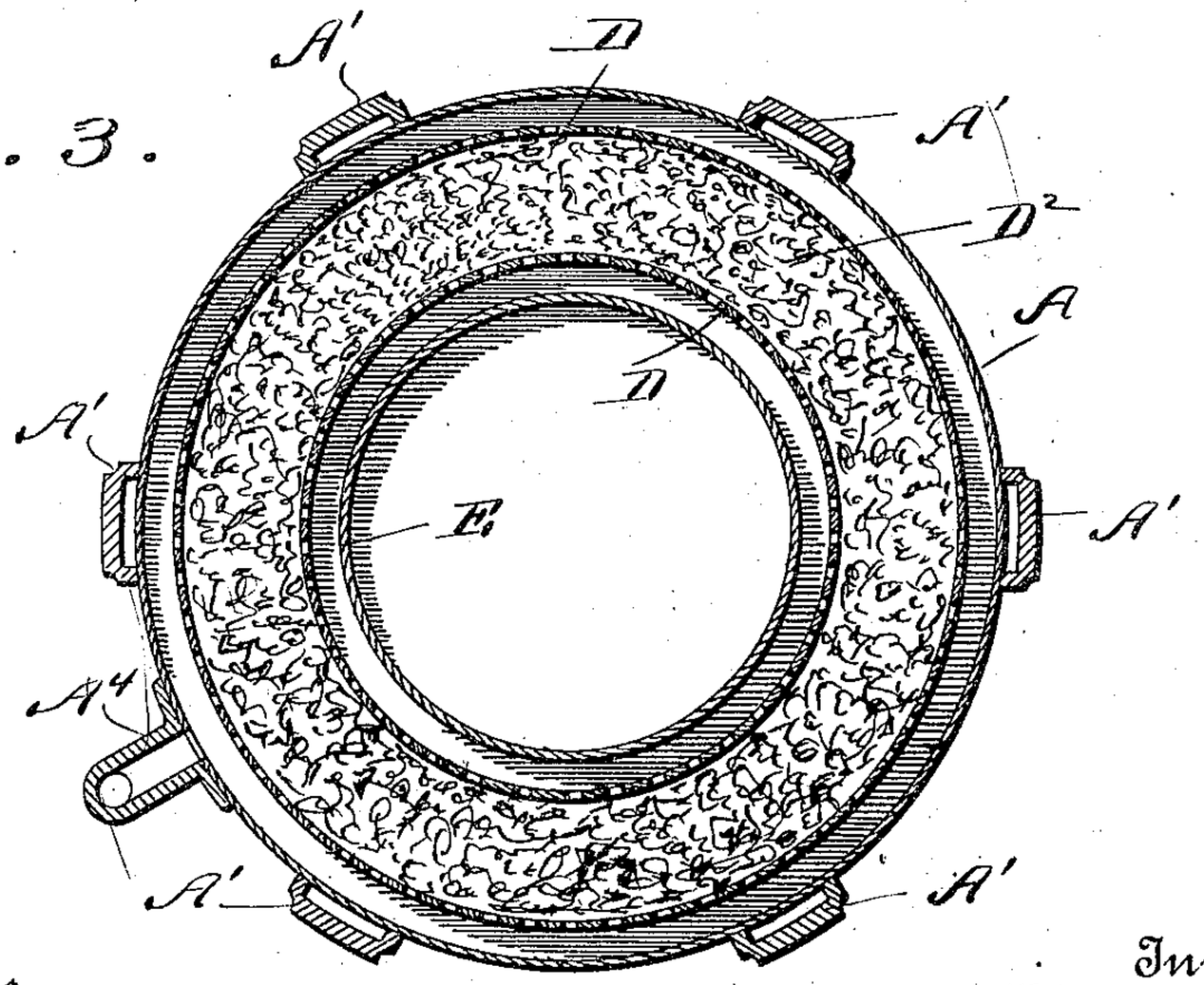


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALBERT KLELL, OF CLEVELAND, OHIO.

FILTER.

No. 846,748. Specification of Letters Patent. Patented March 12, 1907.

Application filed December 15, 1904. Serial No. 236,947.

To all whom it may concern:

Be it known that I, ALBERT KLELL, a subject of the Emperor of Austria, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in a Filter, of which the following is a specification.

This invention relates to a filter designed to also be used when desired as an ice-cooler, in which the ice is held from contact with air or with the water to be filtered.

The object of the invention is a device of this kind in which the parts can be readily taken apart for cleaning and also in which the various compartments can be hermetically sealed when in use.

The invention consists in the novel features of construction and combination of parts hereinafter described, particularly set out in the claims, and shown in the accompanying drawings, in which—

Figure 1 is a view, partly in side elevation and partly in vertical section. Fig. 2 is a plan view, and Fig. 3 is a section on the line 3 3 of Fig. 1.

In constructing my filter I employ a cylinder A, provided with vertically-arranged side strips or ribs A′, which extend below the bottom of the cylinder A and form supporting-legs. These ribs A′ support a downwardly-flanged bottom A^2, secured in place by suitable bolts and nuts. Resting on the upper face of the bottom A^2 is a false, detachable, and upwardly-flanged bottom A^3. A discharge-pipe A^4, having a suitable valve and faucet A^5, provides means for withdrawing liquid from the cylinder A. At the bottom of the cylinder A and beneath the same is carried a feed-pipe C, which is connected to a plug C′, extending through both bottoms A^2 and A^3 and which is closed at the top and perforated adjacent its upper end. The pipe C is also provided with a downwardly-open drain-pipe and valve C^3.

A top B is provided for the cylinder A, and this top is provided with lugs B′, which register with lugs B^2, carried by the strips or ribs A′. A bifurcated bracket, U-shaped and perforated and threaded in the bow portion, is pivoted to each lug B^2 and is adapted to be swung over the registering-lug B′. A set-screw B^4 works in the aperture or threaded perforation of the bow portion of each bracket B^3, and when the brackets are arranged vertically into clamping engagement with the lugs B^2 the set-screw B^4 will engage a socket formed in the lug B′, registering with said lug B^2, thus bearing downward on the lug B′ and on the top B.

Within the cylinder A are arranged concentrically upwardly and downwardly open perforated cylinders D and D′, spaced apart, and between them is arranged suitable filtering material D^2. Within the cylinder D′ and spaced from the same is an imperforate cylinder E, which extends above the cylinders D and D′ and has an outwardly-extending flange E′ at its upper end. The flange E′ rests above an inwardly-extending flange B^5, carried by the top B, and packing material—for example, a rubber gasket G—is placed between the two flanges E′ and B^5. The cylinders D and D′ are beaded at each end, as shown at D^3, and rubber packing F F′ is arranged at each end of these cylinders, the top B bearing directly on the packing-ring F.

The top B is centrally cut out, and to the inner end portions of the lugs B′ are pivoted brackets H, corresponding in construction to the brackets B^3, which clamp lugs H′, carried by a top J, and set-screws H^2 work through the said brackets and bear on the lugs H′. The top J is flanged and fits within the cylinder E, and a rubber packing ring K is arranged between the flange E′ and the flange J′ of the top J.

In use the pipe C may be connected direct to a water-supply; and the water rises and fills the space between the cylinder E and the perforated cylinder D′. I[c] is placed in the cylinder E when desired or in winter-time the cylinder E may be removed, and the water percolates through the filtering material D^2 and through the perforations of the cylinder D into the space between the cylinder D and the inner face of the cylinder A, from which space the filtered and cooled water may be withdrawn through the pipe A^4 and faucet A^5.

By means of the brackets, set-screws, and packing-rings heretofore described the various compartments are sealed air and dust tight. While the packing has been described as rubber, other material may be substituted, if found desirable.

The cylinders may be of any suitable metal or other material and of any desired size.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A filter comprising an outer and an inner imperforate cylinder, perforated cylinders arranged concentrically within the outer

cylinder, filtering material arranged intermediate the perforated cylinders, means for admitting water within the inner perforated cylinder, means for drawing water from the outer cylinder, and means for hermetically sealing all of the said cylinders.

2. A device of the kind described comprising concentrically-arranged inner and outer cylinders, concentrically-arranged perforated cylinders, a top centrally cut out, lugs carried by the outer cylinder, lugs carried by the top, pivoted brackets carried by one set of lugs and adapted to engage the lugs of the other set, set-screws working through said brackets, packing material arranged between the top and the outer and the perforated cylinders, means for admitting water to the inner perforated cylinder, filtering material between the perforated cylinders, and a discharge-pipe leading from the outer cylinder.

3. In a filter comprising a plurality of concentrically-arranged cylinders and filtering material, the innermost cylinder extending above the plane of the top of the other cylinders, packing material arranged on the upper ends of the outer cylinders, an outwardly-extending flange arranged on the innermost cylinder, a top centrally cut out and having an inwardly-extending flange adapted to rest below the flange of the innermost cylinder, said top bearing on the packing material, a packing-ring arranged between the two flanges, a top adapted to fit the cut-out-portion of the top first mentioned, a packing-ring arranged on the flange of the innermost cylinder and between said flange and the second-mentioned top, and means for clamping each top in position.

4. A filter comprising an outer imperforate cylinder and a real and a false bottom, a rubber ring on the false bottom, perforated cylinders beaded and open at each end arranged within the first-mentioned cylinder and upon the rubber ring, filtering material between the perforated cylinders, a rubber ring arranged on the upper ends of the cylinders, a supply-pipe extending through the bottom, of the outer cylinder, a discharge-pipe leading from one side of the outer cylinder, a non-perforate ice-receptacle arranged concentrically within the perforated cylinders and spaced therefrom, a top adapted to bear on the rubber ring on the cylinders, and means for clamping the said top in place.

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