

S. M. PIKE.  
FILTER COOLER.

No. 60,553.

Patented Dec. 18, 1866.

Fig. 3.

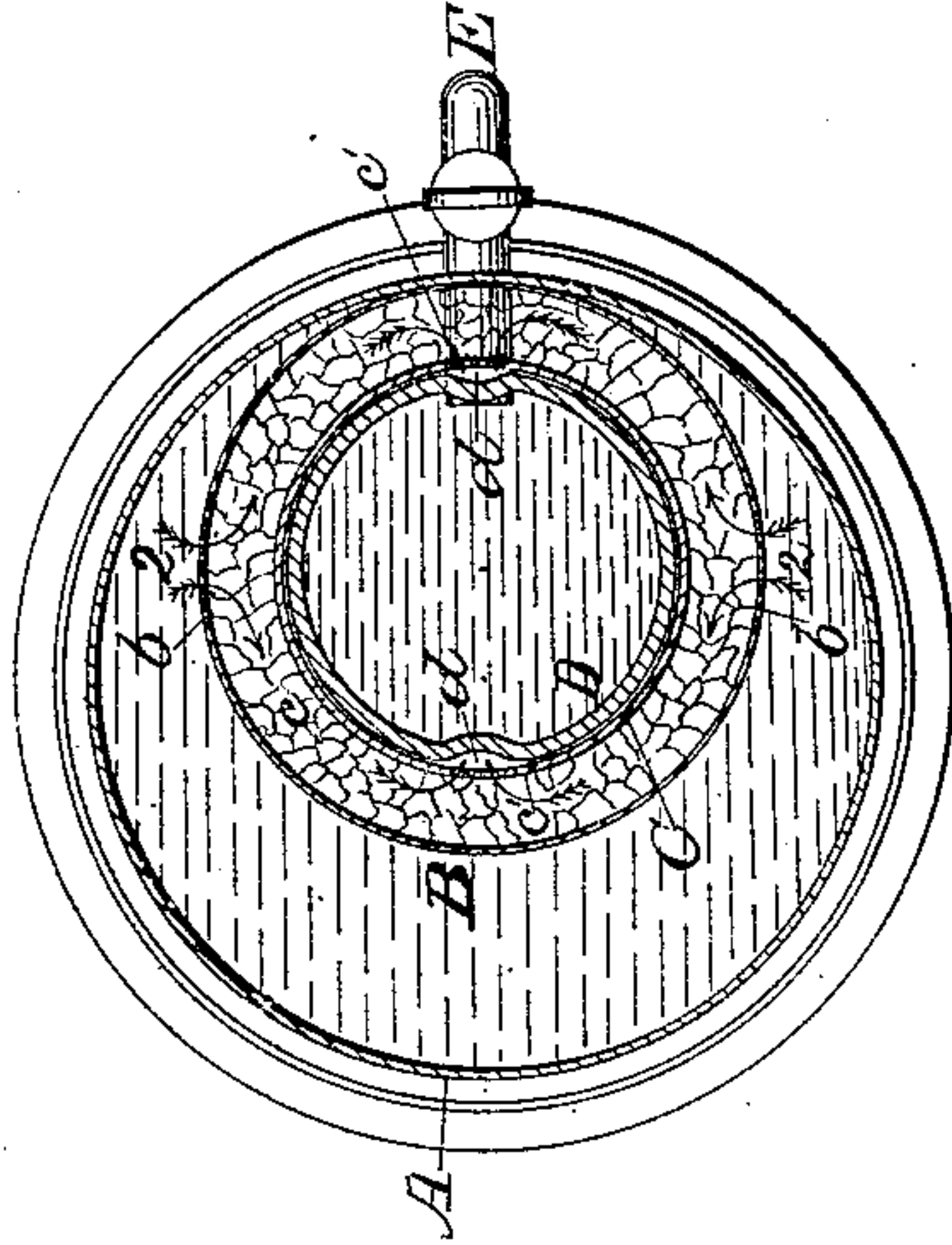


Fig. 2.

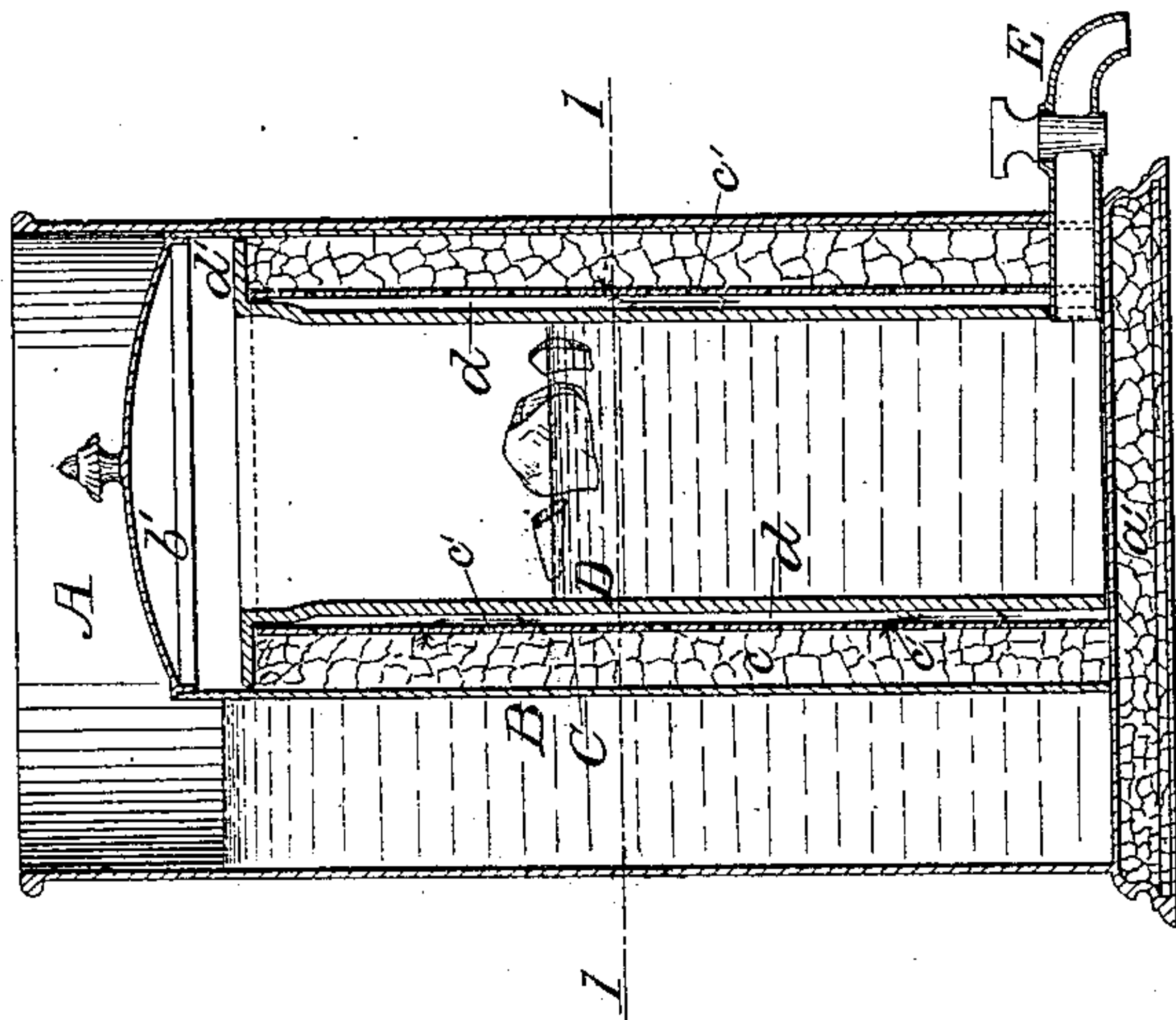
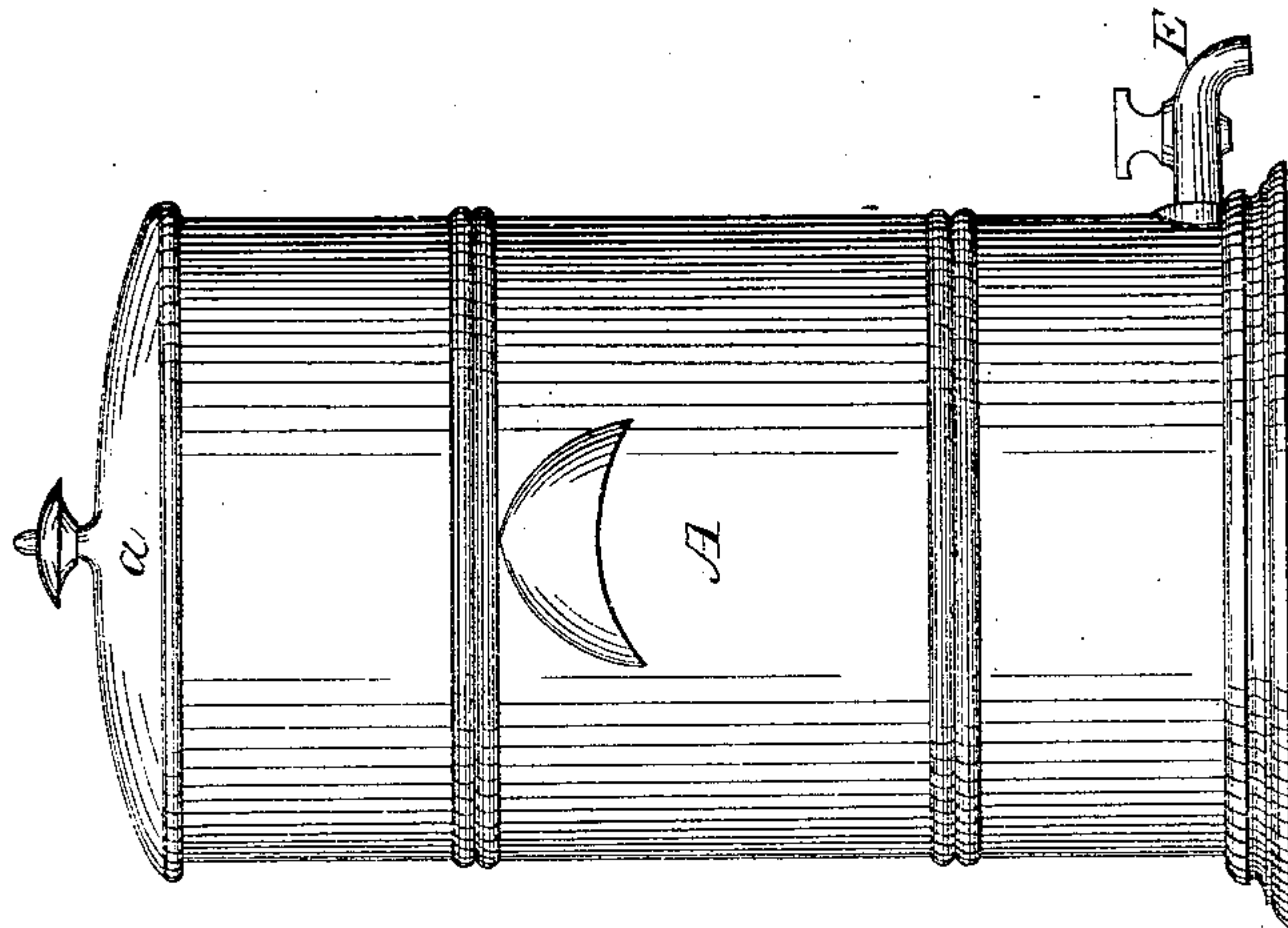


Fig. 1.



Witnesses:  
Isaac Hart.  
Charles L. Fisher

Inventor:  
S. Montgomery Pike

# United States Patent Office.

## IMPROVEMENT IN FILTER-COOLERS.

S. MONTGOMERY PIKE, OF CINCINNATI, OHIO.

*Letters Patent No. 60,553, dated December 18, 1866.*

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, S. MONTGOMERY PIKE, of Cincinnati, Hamilton county, and State of Ohio, have invented a new and improved Arctic Filter-Cooler; of which the following is a full and clear description thereof, reference being had to the accompanying drawings, making a part of this specification.

My improvement relates to the construction and arrangement, within a reservoir, of a filter-cooler, from which clarified or cold, clear water may be drawn at any time.

Figure 1 is an elevation of the cooler, containing my improvements.

Figure 2 is a vertical sectional view of my improved arctic filter-cooler.

Figure 3 is a longitudinal section of the same, the section being taken in the plane of line 1 1, indicated in fig. 1.

A is the outer casing of the filter-cooler, open at the top, which has a cover, *a*, and a double bottom for confining a non-conducting material, *a'*. Within the casing A, eccentrically located, is the filter-cooler proper, composed of an outer metallic case B, made fast to the outer casing A. At the bottom, the open top is covered with a lid, *b'*; it is perforated in the elements of the cylinder, diametrically opposite, and from top to bottom. An inner case, C, of much smaller diameter than the case B, is likewise open at top, and secured to the bottom of the outer casing A. It is perforated, *c'*, vertically through its entire length, in two confined series, diametrically opposite, the series of perforations being in line with the faucet E, an ninety degrees removed from the series of perforations *b*, in the outer metallic case B. The space between the outer and inner cases, B and C, is filled with the filtering material *c*. The cooler D, made of earthenware or other suitable material, is fitted within the inner case C, reaching nearly to the bottom of the outer casing A. An annular flange *d'*, projecting outwards, covers the space between the case C and case B. The cooler D is fluted at diametrically opposite points *d*, through its entire length. The pipe from faucet E extends to within the cooler D. The vessel composed of the outer casing A, and double bottom *a'*, is a reservoir into which the water is placed; it thence passes through the perforations *b*, of the outer metallic case B, and permeates the filtering material *c*, through which it passes both to the right and left, as indicated by the arrows 2. Each of the four currents of fluid passes through one-fourth of the entire mass of filtering material, and passing through the perforations *c'*, in the inner case C, is continued down the flutes *d*, between the case C and cooler D. The flutes *d* are opposite the perforations *c'*, passing under the bottom edge of the cooler D. The fluid is received into the chamber formed by the cooler D, in which the ice is placed. The water, in its course to the inner chamber, is clarified, and may be drawn off by the faucet E, when desired. The cooler D may be removed in cold weather. It is desirable to have it in place during warm weather, since it will preserve the desired temperature for a greater length of time.

Having fully described my invention, I make the following claims, which I desire to secure by Letters Patent:

1. The outer metallic case B, and inner case C, with their series of perforations, *b* and *c'*, respectively, constructed and arranged as and for the purpose above described and set forth.
2. The cooler D, having the flutes *d*, in combination with the inner case C, as above described, and for the purpose specified.
3. The outer perforated case B, the inner perforated case C, and cooler D, in combination with the casing A, of the filter-cooler, all arranged as above shown, and for the purpose set forth.

S. MONTGOMERY PIKE.

Witnesses:

ISAAC HART,

CHARLES L. FISHER.