

(No Model.)

J. A. VAN DRELZEN.

COOLER FOR WATER AND OTHER LIQUIDS.

No. 321,666.

Patented July 7, 1885.

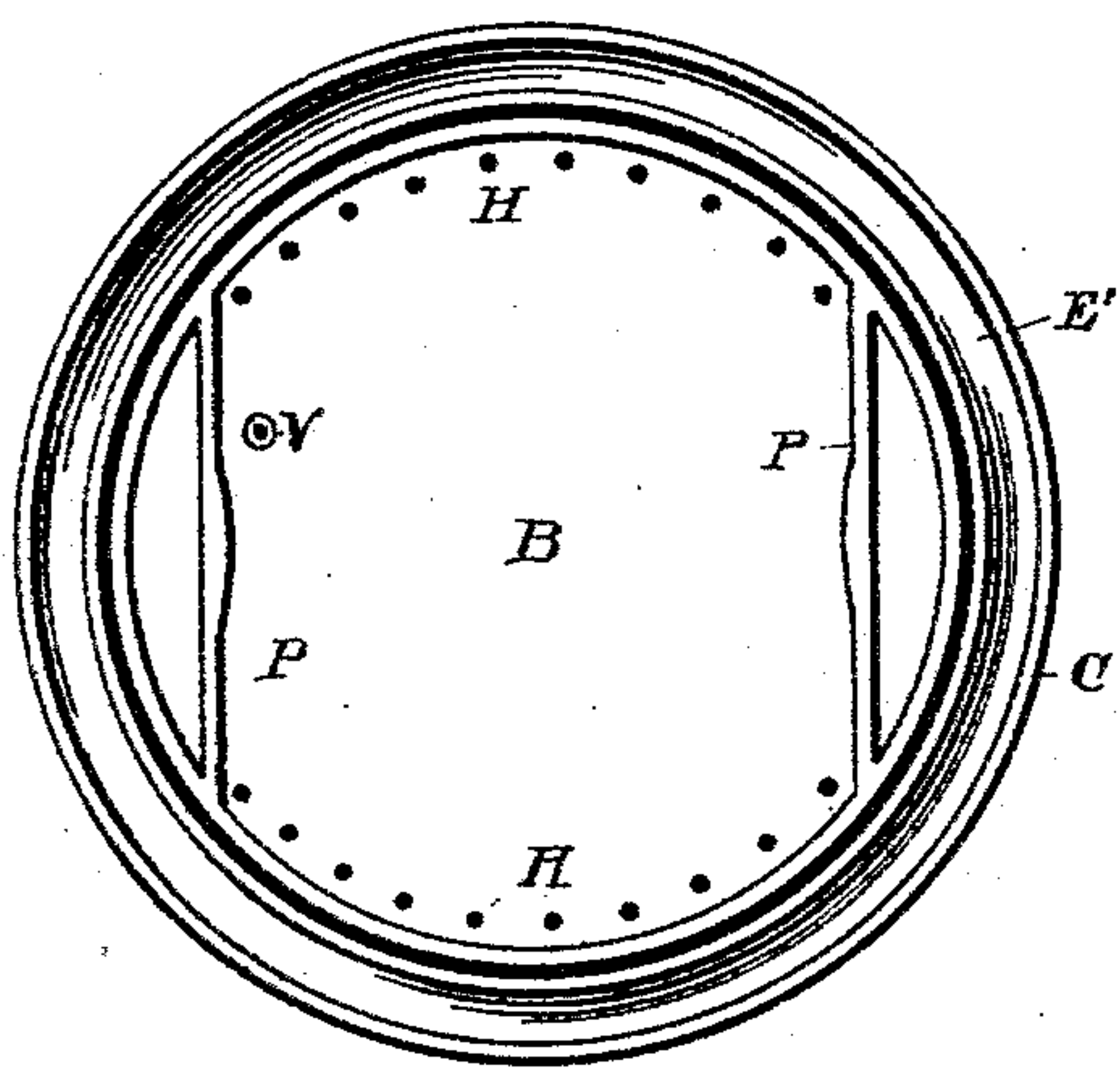
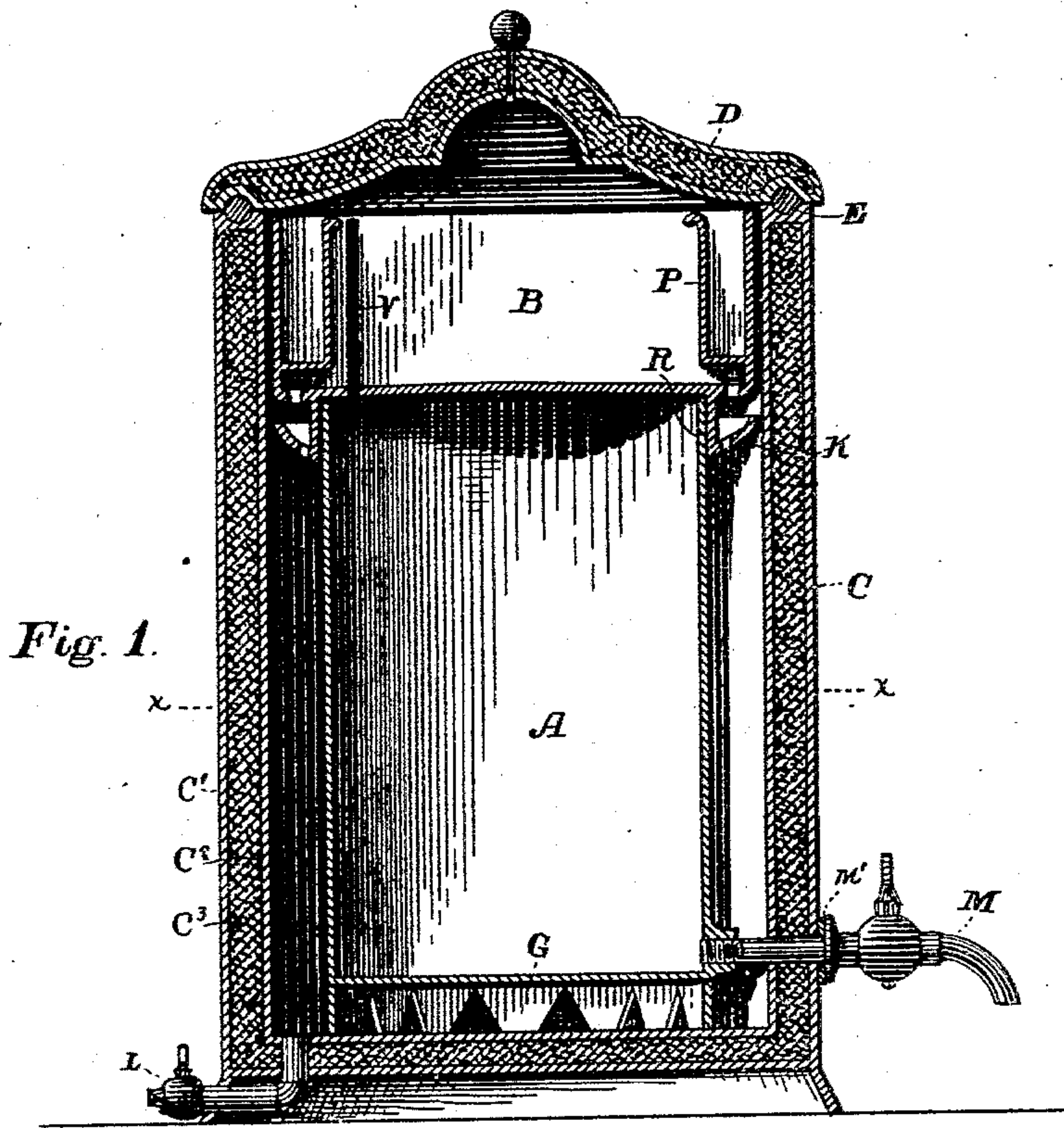


Fig. 2.

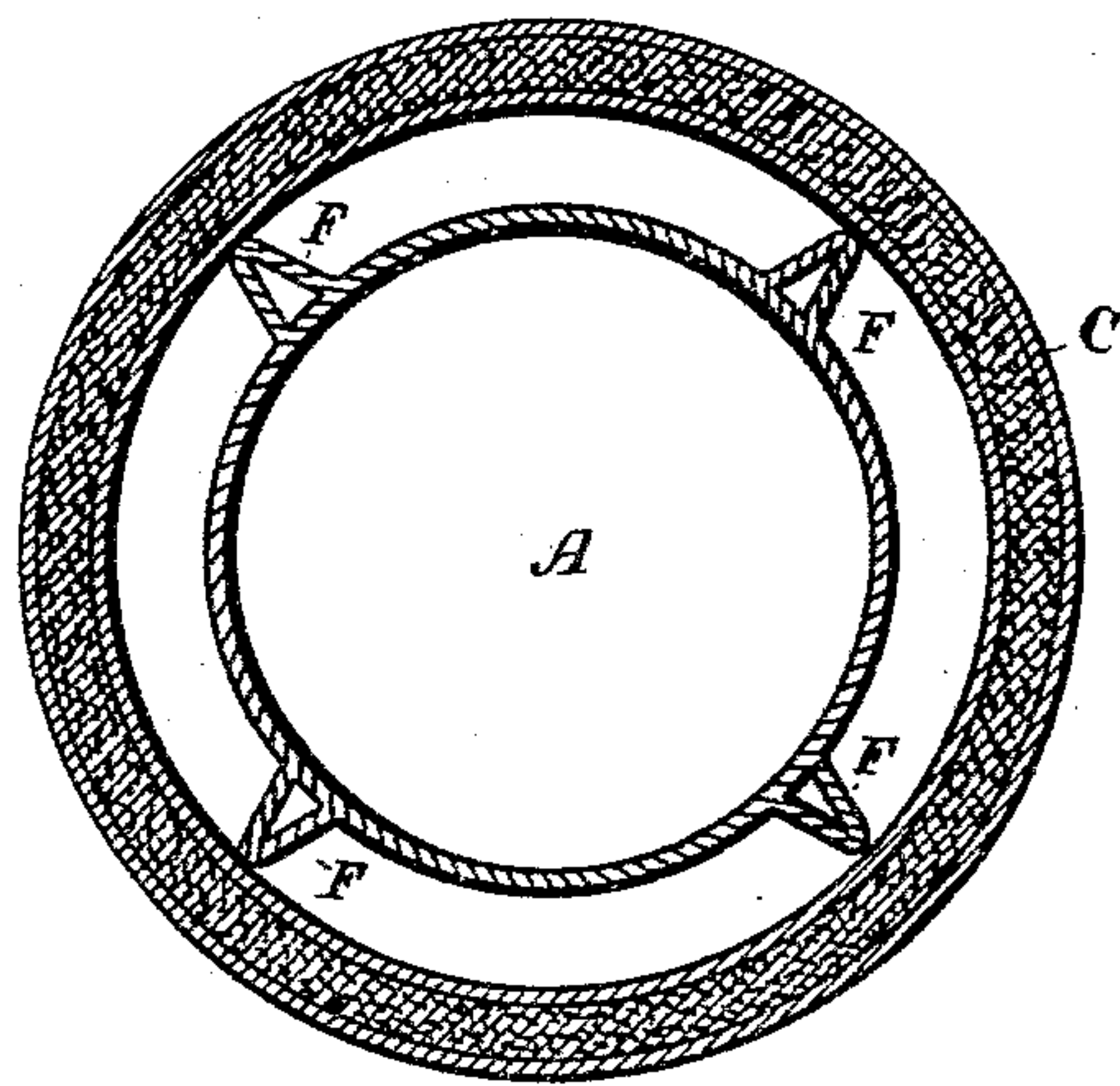


Fig. 3.

Witnesses;

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Inventor,

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per A. B. Upham

UNITED STATES PATENT OFFICE.

JOHN A. VAN DRELZEN, OF PEORIA, ILLINOIS.

COOLER FOR WATER AND OTHER LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 321,666, dated July 7, 1885.

Application filed April 18, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. VAN DRELZEN, of Peoria, in the county of Peoria, in the State of Illinois, have invented an Improved Cooler; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a central vertical section of the invention; Fig. 2, a plan view of the same with cover removed; Fig. 3, a horizontal section at X X in Fig. 1.

This invention is designed, mainly, for cooling gelatine solutions and other emulsions used in photography; but it is equally applicable to the reduction of the temperature of drinking-water and for other similar purposes.

The cooler consists of the liquid-receptacle, a double-rimmed cover for holding the ice and distributing the melted water thereof to the exterior of the said liquid-receptacle, and an enveloping-vessel for protecting said receptacle and ice from the surrounding atmosphere and for receiving the melted water.

In the drawings, A is the liquid-receptacle or reservoir; B, the double-rimmed cover for said reservoir, forming the ice-box. C is the protecting-case enveloping said reservoir and ice-box, and D is the cover for said case. To increase the non conductibility of the walls of said case C, I usually make them double, as shown in the drawings, and fill in the interstices with a cemented mixture of asbestos and oat-hulls. In the cheaper forms of my cooler, however, I construct the said case of earthenware, having its walls solid. As a means of enabling the cover D to rest air-tight upon the case, corresponding annular grooves, E', are formed in the contiguous parts of the case and cover, and in said groove E' of the case is laid a rubber ring, E, circular in cross-section. When the cover D is placed upon the case C, said ring enters the annular groove E' of said cover and entirely closes the junction. The reservoir A is sufficiently smaller in diameter than the interior of the case C to provide an annular space thereat, and said reservoir is made to keep in place therein by means of the ribs F, secured to the exterior of said reservoir or formed as a part thereof. To keep

the bottom of said reservoir as far from the bottom of the case as is necessary to allow of a sufficient circulation of air and water therebetween, a crown-shaped flange, G is affixed to the under side or bottom of said reservoir. The serrations of said flange support the reservoir, and the spaces between them permit the desired circulation of air and water. The upper rim of the ice-box B almost touches the under side of the cover D, and the diameter of the same is but a little smaller than that of the interior of the case C. This rim and the bottom B' form the ice-box, into which is placed the ice, by which and the water melting therefrom the caloric of the reservoir A and its contents is absorbed. In the bottom B', at the annular portion that juts beyond the reservoir A, I make a series of perforations, H, through which, as the ice melts, the water therefrom can percolate into the space below.

In many places, and, in fact, everywhere, it is difficult to procure ice of whose freedom from contaminating influences we can be perfectly assured. It is therefore important that the ice in the ice-box and the water therefrom shall be entirely shut away from the drinking-water or other contents of the reservoir A. To do this the under side of the bottom of the ice-box is provided with the rim R, adapted to fit snugly about the upper edge of the reservoir. At the lower edge of said rim R, I form the frusto-conical flange K, which, by its shape, makes a shallow basin, into which drips the water from the perforations H. Through said flange K, at its lowest line, is another series of perforations similar to those in the bottom B'. The water caught in said basin and percolating through its perforations drips down along the sloping under side thereof to the reservoir A, and so down the exterior surface of the same until it reaches the bottom of the case C. Here it can be allowed to accumulate, if desired; or it may be permitted to pass out through the drip-pipe L. By means of the catch-basin formed by the flange K, sediment is retained that might otherwise accumulate in the case. I often form two or more pockets, P, in the ice-box B, as shown in Figs. 1 and 2, the bottoms of which are sufficiently above the perforations H to permit the unimpeded access thereto of the

water. In said pockets can be placed any small articles—such as bottles of wine and the like—which it may be desired to cool. A part of the upper edge of each pocket P is turned 5 over somewhat to form handles by which to lift the ice-box from its place. The cooled drinking-water is drawn off from the reservoir A through the valve M. When it is wished to remove the reservoir A to enable it to be 10 cleansed, it is necessary to displace the said valve M. To do this the inner end of the stem of the same is screw-threaded and screwed into the boss A' of said reservoir. The elastic washer M' enables the passage of said stem 15 through the wall of the case C to be closed water-tight. By unscrewing and removing the said valve-stem there remains nothing to hinder the reservoir from being taken out.

In addition to using this invention for a 20 cooler, I find it almost equally applicable for use as a plate-cleaner in photography. The only changes that would be required would be that of perforating the bottom of the reservoir A. The soda or other material, whose slow dis- 25 solving replenishes the strength of the cleansing solution in the case and reservoir, is placed in the box B. Filtering-cotton may be placed in the basin K to more thoroughly prevent anything but the clear alkali or acid solutions 30 from passing down into contact with the glass plates to be cleansed. Such alkali or acid solution enters the reservoir A through the perforations in its bottom, leaving whatever sedimentary matter upon the bottom of the case 35 that might have escaped the filter. In removing the reservoir A and its contents the alkali or acid flows out therefrom through the perforated bottom.

If desired, the reservoir A may be divided 40 by suitable partitions into two or more compartments.

In using this cooler for refrigerating gelatine emulsions I generally employ a glass bottle to hold said emulsion and insert said bot- 45 tle into the reservoir.

In constructing the case C, I generally form the same from sheets of felt cemented together with a thick interlying mixture of charcoal, oat-hulls, and asbestos, suitably cemented to- 50 gether.

C' is the outer layer of felt; C², the inner sheet; and C³, the interlying mixture of cemented charcoal, oat-hulls, and asbestos.

V is a vent-pipe to permit the access of air 55 to the reservoir A, in order to enable the water contained therein to readily run therefrom through the valve M.

What I claim as my invention, and for which I desire Letters Patent, is as follows, to wit:

60 1. The combination, in a cooler, of the outer case, the inner reservoir, and the ice-box fitting within said case upon said reservoir, and having the series of perforations through the portion of the bottom of said ice-box jutting

beyond said reservoir, substantially as and 65 for the purpose specified.

2. The combination, in a cooler, of the outer case, the inner reservoir having the crown-shaped supporting-flange and the vertical ribs, and the ice-box fitting within said case 70 upon said reservoir, and having the series of perforations through the portion of the bottom of said ice-box jutting beyond said reservoir, substantially as and for the purpose specified.

3. The combination, in a cooler, of the outer 75 case, the inner reservoir having the crown-shaped supporting-flange, the vertical ribs, and the outlet-valve, and the ice-box fitting within said case upon said reservoir, and having the series of perforations through the bot- 80 tom of said ice-box jutting beyond said reservoir, substantially as and for the purpose specified.

4. The combination, in a cooler, of the outer case, the inner reservoir, and the ice-box fit- 85 ting within said case upon said reservoir, and having the pockets and the series of perforations through the bottom thereof where the same juts beyond said reservoir, substantially as and for the purposes described. 90

5. The combination, with the vessel A, of the box B, having series of perforations H through its bottom where it juts beyond said vessel, and having the rim R, projecting from the under side of said bottom and adapted to 95 fit about the upper edge of said vessel, as and for the purposes set forth.

6. The combination, with the vessel A, of the box B, having the series of perforations H, and the downwardly-projecting rim R, 100 provided with the perforated frusto-conical flange K, said rim being adapted to fit about the upper edge of said vessel, as and for the purpose described.

7. In combination, an outer case, the inner 105 reservoir, and the ice-box fitting within said case and upon said reservoir, having the series of perforations through the portion of the bottom jutting over said reservoir, and having the downwardly-projecting rim provided with 110 the perforated frusto-conical flange, said rim being adapted to fit about said reservoir, as and for the purposes specified.

8. In combination, the outer case, C, having the annular groove E in its edge, the cover D 115 for said case, and an annular projection beneath said cover for fitting into said groove, the drip-pipe L, the inner reservoir, A, having valve M, and the ice-box B, having the pockets P, perforations H, and flanged rim R, as 120 set forth, for the purpose specified.

In testimony that I claim the foregoing invention I have hereunto set my hand this 14th day of April, 1885.

JOHN A. VAN DRELZEN.

In presence of—

A. B. UPHAM,
H. W. WELLS.