

W. F. CLAPP.  
Refrigerator.

No. 225,109.

Patented Mar. 2, 1880.

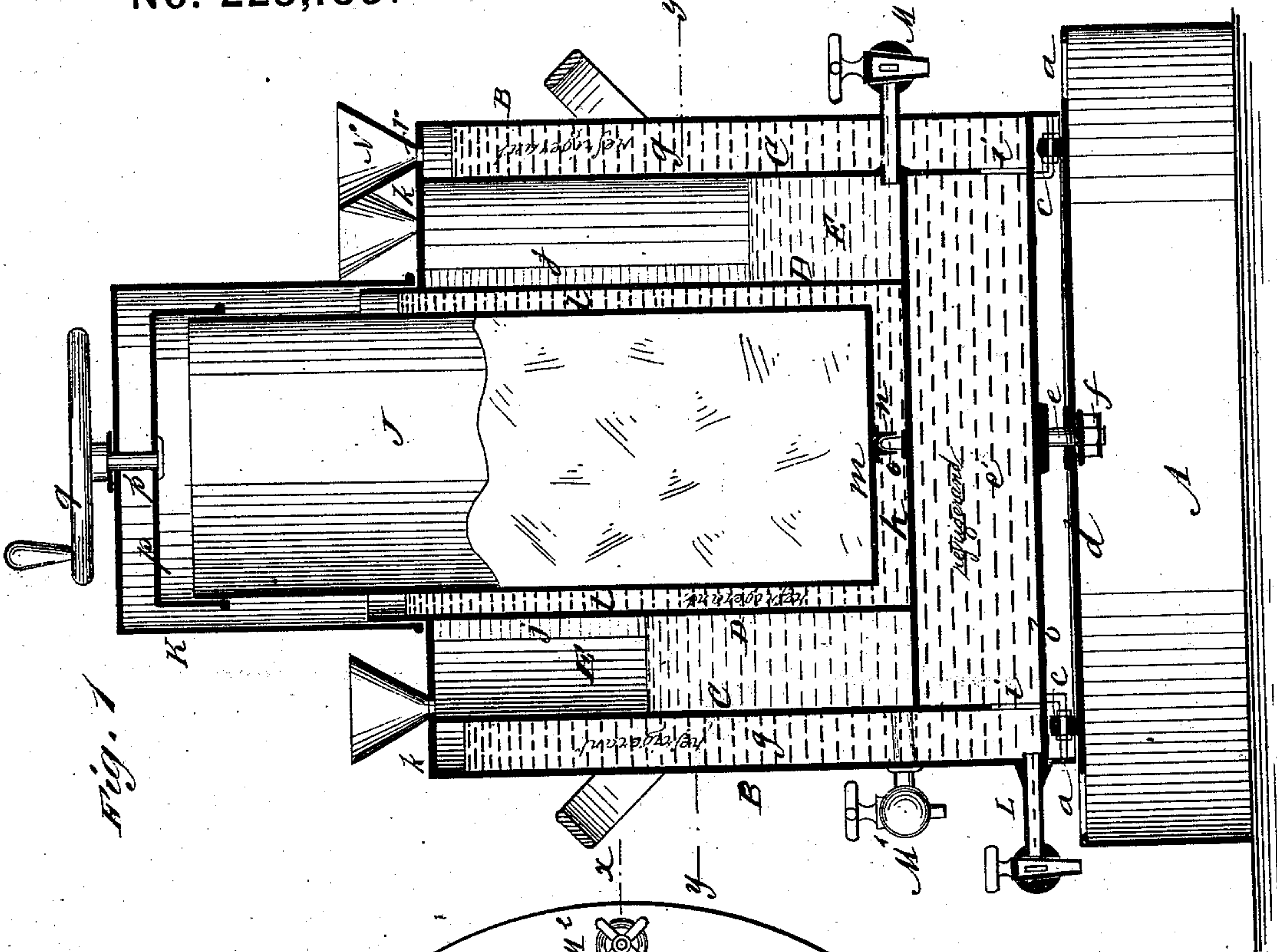


Fig. 1

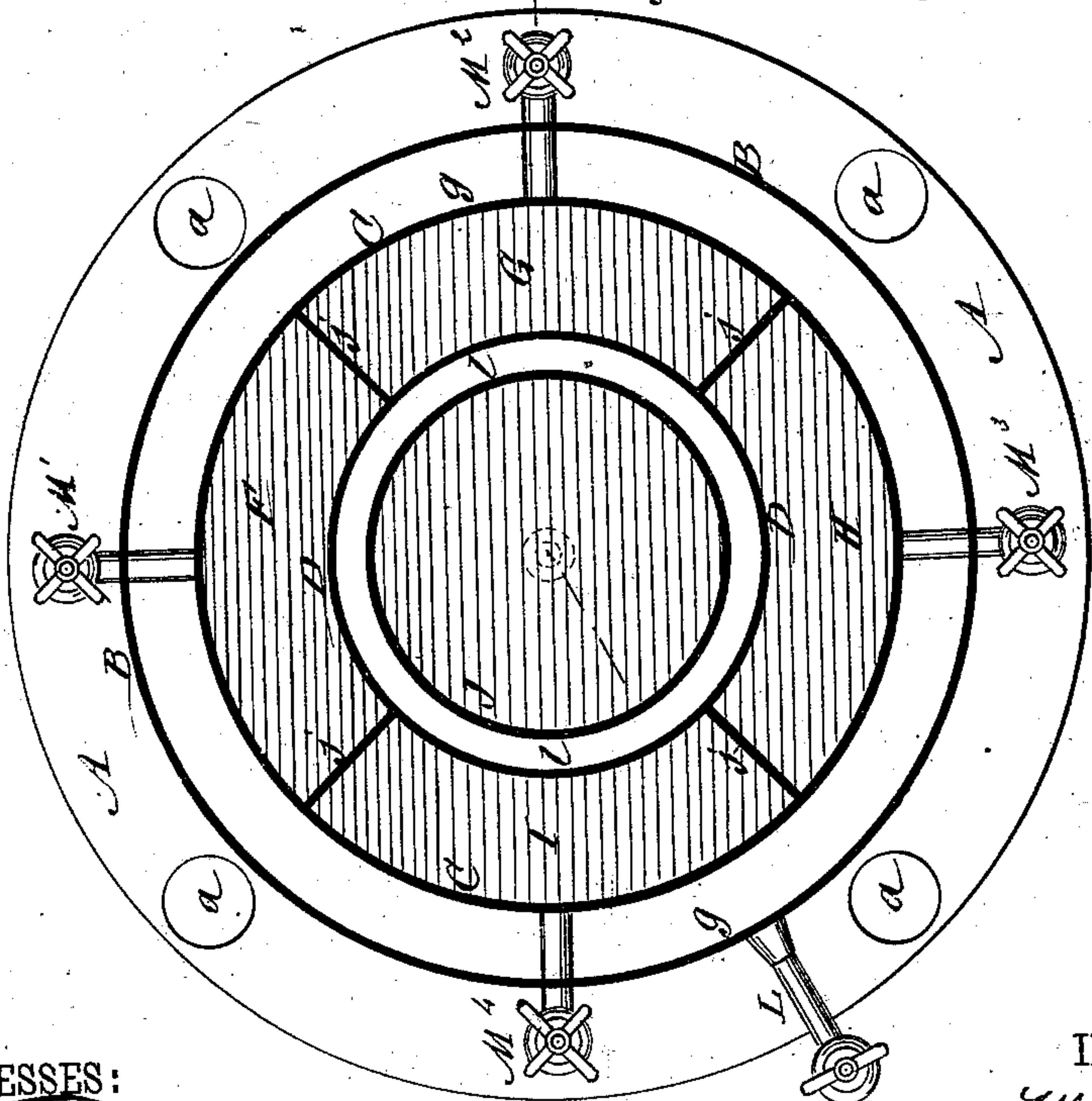


Fig. 2

WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM F. CLAPP, OF ALLEMANCE, NORTH CAROLINA.

## REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 225,109, dated March 2, 1880.

Application filed October 23, 1879.

To all whom it may concern:

Be it known that I, WILLIAM F. CLAPP, of Allemande, in the county of Guilford and State of North Carolina, have invented a new and  
5 Improved Refrigerator, of which the following is a specification.

The object of my invention is to furnish a simple and efficient apparatus for cooling liquids and freezing ice-cream by means of  
10 chemicals.

The invention consists of an oscillating or rotary vessel provided with compartments for the cooling-mixture and the liquids to be cooled and a central chamber for the reception of the  
15 ice or other refrigerant and the vessel containing the cream, the several parts being arranged and operated in the manner fully described farther on.

In the accompanying drawings, Figure 1 is a vertical cross-section of my improved refrigerator, taken on line *x x* of Fig. 2; and Fig. 2  
20 is a horizontal section of the same, taken on line *y y* of Fig. 1.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A is the base of the refrigerator, provided with circular openings *a* for the reception of cups, glasses, and other vessels, which are placed in said openings  
30 while being filled from the faucets.

B is a cylindrical outside vessel, having under its bottom *b* rollers *c*, which rest on the top *d* of base A. At the exact center of bottom *b* is a pivot, *e*, which is passed through  
35 top *d* and secured by a nut, *f*. Vessel B turns freely on pivot *e*, and the rollers *c* steady its movements.

Inside of vessel B is another vessel, C, of less diameter than B, so that a space, *g*, is left between the two vessels. Vessel C is provided with a bottom, *h*, some distance above bottom  
40 *b*, whereby a space, *e'*, is left between the two bottoms, *h b*, which communicate with each other through openings *i*.

Within vessel C is a vessel, D, the walls whereof rise from bottom *h* and extend above the walls of vessels B C. Between vessels C D is an annular space, E. Said space is subdivided by vertical partitions *j* into compartments F G H I. Spaces *g* E are covered over  
45 at the top by an annular plate, *k*, extending

from the top edge of vessel B to the walls of vessel D, as shown in Fig. 1.

Within vessel D is placed the ice-cream vessel J, which is of such a size that a space, *l*, is  
55 left between it and vessel D for the reception of ice or a chemical freezing-mixture, as may be desired.

To the under side of bottom *m* of vessel J is fixed, at the center, a socket-piece, *n*, which  
60 receives the pivot *o* on the bottom *h*. Vessel J is provided with a close-fitting cover, *p*, to the center whereof is fixed a pivot, *p'*.

K is a cap, which fits over vessel J and over the top of vessel D. The lower end of said cap  
65 rests on the annular plate *k*. Pivot *p'* is passed up through the top of cap K, and its projecting end is provided with a crank-wheel, *q*, by means whereof the vessel J is rotated or oscillated on the axis formed by pivots *o p'* for the  
70 purpose of properly agitating the cream to facilitate its freezing, &c.

L is a faucet for drawing off the liquid contained in vessel B, and M' M<sup>2</sup> M<sup>3</sup> M<sup>4</sup> are faucets leading respectively from compartments F G  
75 H I. Vessel B is provided with a filling-orifice, *r*, made in plate *k*, and is provided with a funnel, N. Similar orifices are made for each of the compartments F G H I.

The manner of using the refrigerator is as  
80 follows: For a mixture to produce the cold I use either one of the following compounds: first, two parts of copperas and one part of sal-soda; second, two parts of saltpeter and one part of sal-soda; third, one part sal-am-  
85 moniac, two parts saltpeter, and three parts of bicarbonate of soda. One of these compounds is placed in the vessel B and the proper quantity of water added. The four compartments F G H I are now filled respectively with wine,  
90 milk, lemonade, and coffee, or any other liquids that it may be desired to cool. When thus prepared the vessel B is oscillated and rotated for the purpose of agitating the mixture and causing the elements to combine, and thereby  
95 absorb the latent heat of the liquids in compartments F G H I, and thus lower their temperature.

When ice-cream is to be made the cream is placed in vessel J, and in vessel D is placed  
100 one of the freezing-mixtures above described. This freezing-mixture is agitated by rotating

and oscillating vessel B, and at the same time the cream is agitated by rotating and oscillating vessel J by means of crank-wheel *g*.

5 Instead of a freezing-mixture such as above described, ice and salt may be placed in vessel D around ice-cream vessel J, for the purpose of freezing the cream.

10 If it is not desired to use the apparatus for making ice-cream, the vessel J may be taken out and the vessel D used for the reception of a mixture to assist in cooling the contents of vessel C, thereby exposing the contents of said vessel to cold on both sides; and when ice-cream is being frozen the freezing material in  
15 vessel D aids that in vessel B to cool the contents of vessel C.

Having thus described my invention, I claim

as new and desire to secure by Letters Patent—

The refrigerator consisting of the base A, 20 the cylinder B, connected therewith by pivot *e* and having rolls *c*, the internal cylinder, C, separated from cylinder B by the space *g*, the cylinder D, supported in cylinder C by a bottom, *h*, and the cylinder J, pivoted to cylinder 25 C in the center of its bottom and connected therewith by pivot *p'* at the top, said pivot *p'* being provided on the outside with a hand-wheel, as shown and described.

W. F. CLAPP.

Witnesses:

J. P. BOSS,

A. C. BOON.