(No Model.) 2 Sheets—Sheet 1.

# J. E. NEWHOUSE.

## ICE CREAM FREEZER.

No. 485,646. Patented Nov 8, 1892.

Fig. 1.

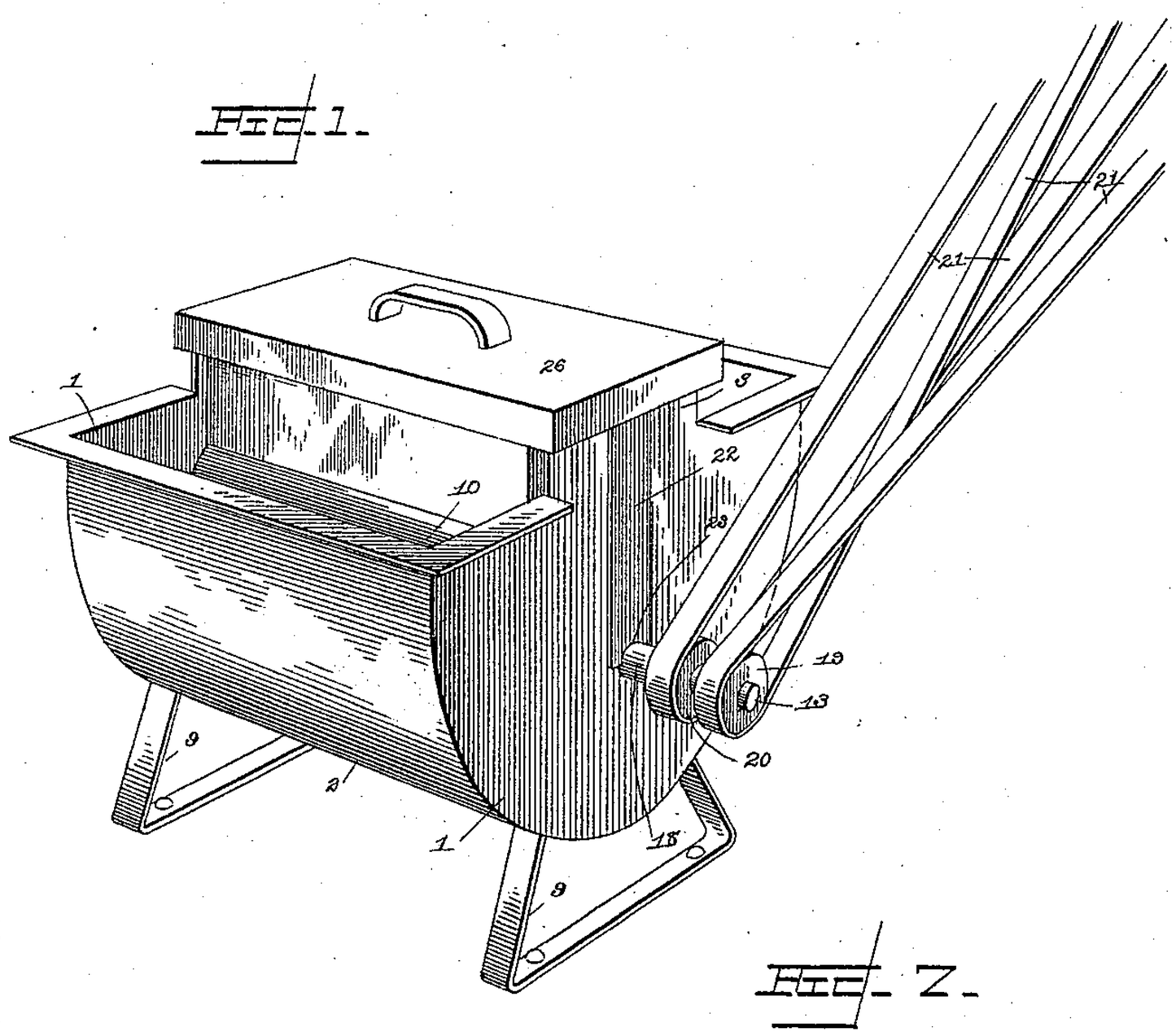



Fig. 5.

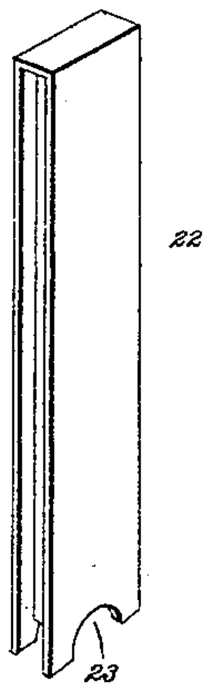



Fig. 7.

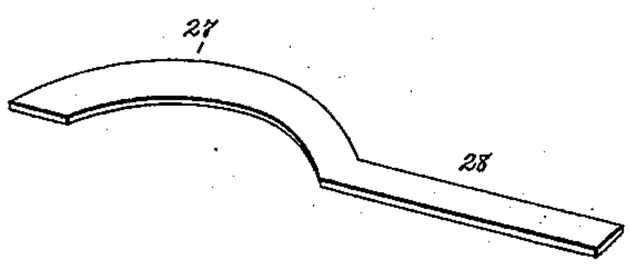
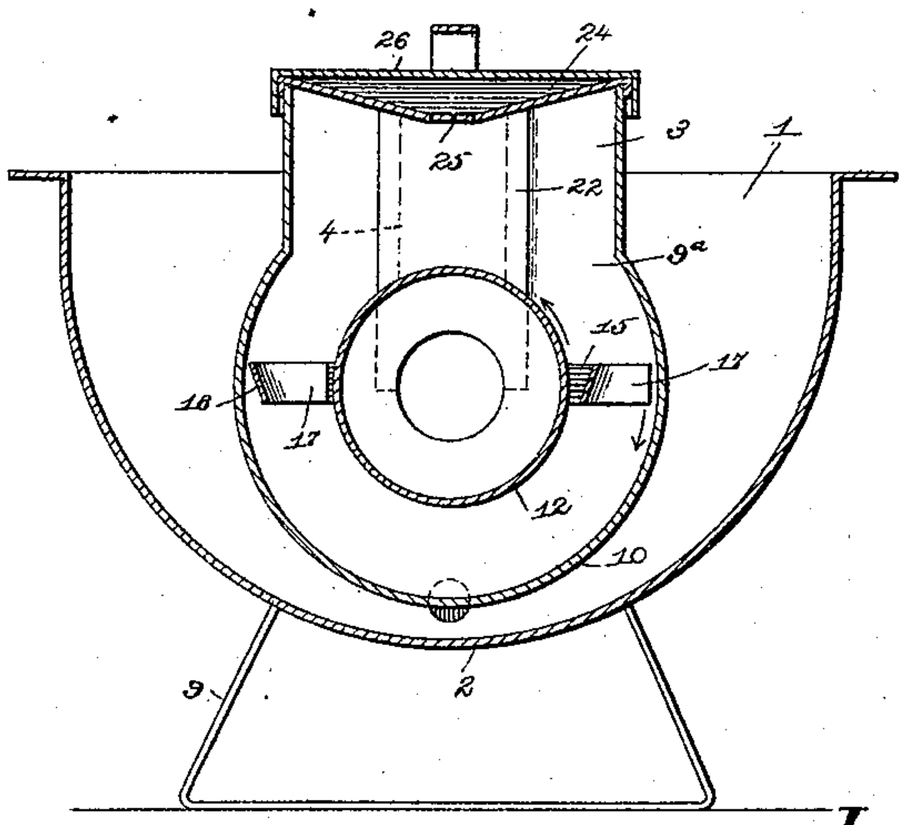



Fig. 2.




Witnesses

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(No Model.) 2 Sheets—Sheet 2.

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## ICE CREAM FREEZER.

No. 485,646. Patented Nov. 8, 1892.

Fig. 3.

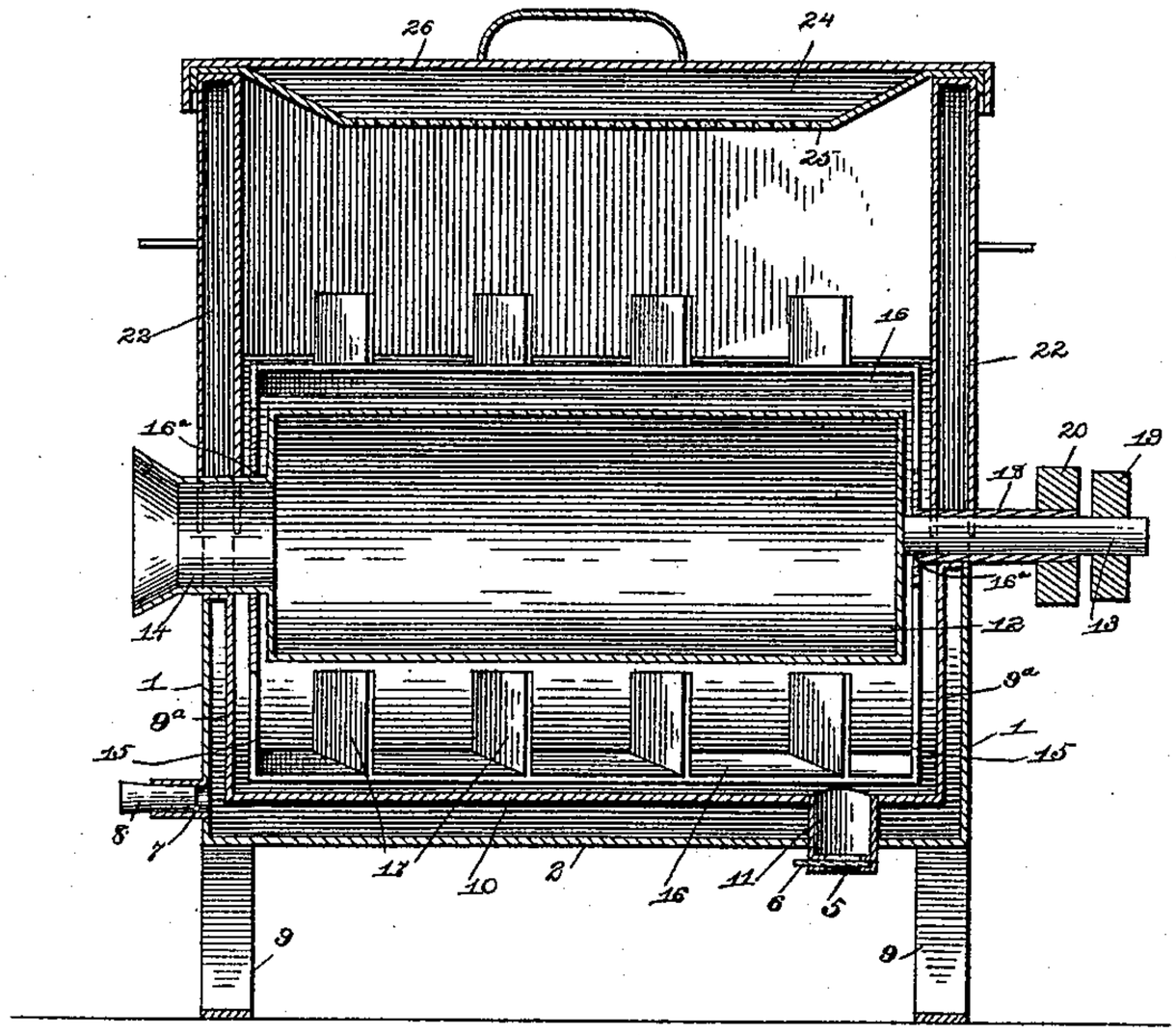



Fig. 4.

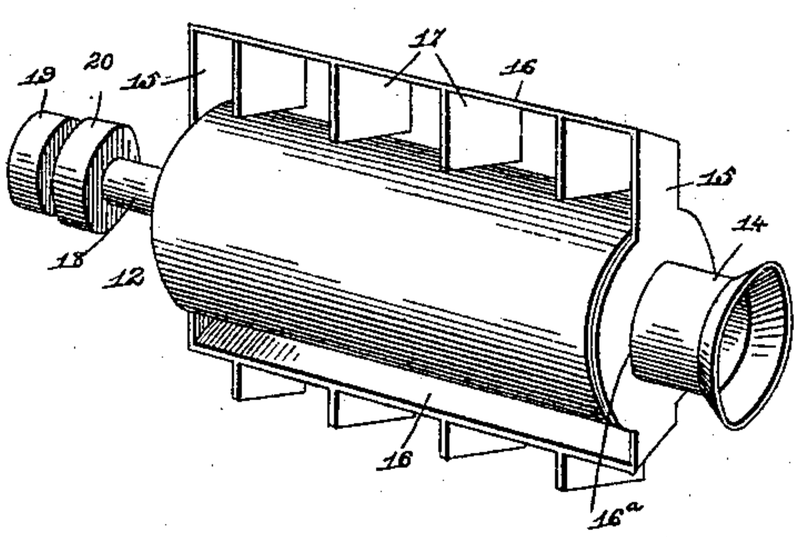
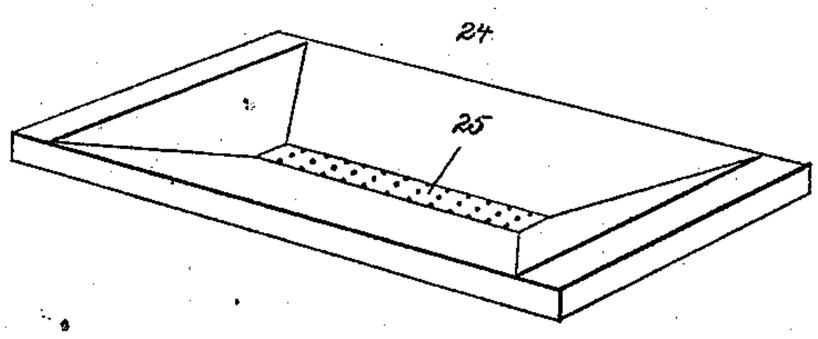



Fig. 6.




Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN E. NEWHOUSE, OF MAGNETIC SPRINGS, OHIO.

## ICE-CREAM FREEZER.

SPECIFICATION forming part of Letters Patent No. 485,646, dated November 8, 1892.

Application filed May 7, 1892. Serial No. 432,178. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. NEWHOUSE, a citizen of the United States, residing at Magnetic Springs, in the county of Union and State of Ohio, have invented a new and useful Ice-Cream Freezer, of which the following is a specification.

My invention relates to improvements in ice-cream freezers; and the objects in view are to provide an improved freezer so constructed as to effectually beat the cream or work the same into a light mass, which will chill the cream before it has a chance to become churned, which may be opened at any time during the freezing operation for inspection, the parts of which are readily detachable and hence may be thoroughly cleaned, and which provides for a thorough utilization of the refrigerant or freezing agent.

With these objects in view and other minor objects not mentioned the invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of an ice-cream freezer embodying my invention. Fig. 2 is a transverse section thereof. Fig. 3 is a longitudinal section. Fig. 4 is a detail in perspective of the freezing-cylinder and paddle-frame. Fig. 5 is a detail in perspective of one of the bearing-blocks; Fig. 6, a similar view of the strainer or distributing-tray. Fig. 7 is a detail perspective view of the scraper.

Like numerals of reference indicate like parts in all the figures of the drawings.

The outer casing of the freezer consists of opposite semicircular end walls 1 and a connecting semicircular or curved bottom 2, the end walls and bottom being preferably provided with a surrounding flange. The opposite end walls are at their centers provided with upwardly-disposed extensions 3, and these extensions are provided with vertical bearing-slots 4, which extend down to a point below the centers of the end walls. The semicircular bottom 2 is provided near one of the end walls with a discharge-opening 5. The same is provided with a removable door 6. The end wall farthest from the opening is provided with a discharge-opening 7, which is fitted with a suitable plug 8. The casing as thus constructed is mounted upon suitable supports or legs 9, of a sufficient height to permit of the introduction under the casing of a packing freezer or box. Located within the outer casing is a freezing-chamber, which consists of opposite end walls $9^a$, the lower portions of which are nearly circular and are slotted to agree with the slots 4 of the end walls of the outer casing, to which end walls they are connected. The inner freezing-chamber also comprises a bottom and opposite side walls, which are formed integrally with the bottom, being nearly circular and the side walls vertical, so that they combine to produce a slightly-contracted mouth. This bottom, which I have designated as 10, is also provided with an opening directly above the opening 5 of the casing, and the two are connected by a short pipe or collar 11.

12 designates the freezing-cylinder, and the same is hollow and adapted to be inserted within the freezing-chamber, being of a diameter considerably less than that of the chamber. The cylinder 12 is provided at one end with a stub-axle 13 and at its opposite end with a hollow axle 14, which is flared at its outer end, and through which crushed ice and salt in proper proportionate quantities may be introduced.

The beater-frame is rectangular, and consists of opposite transverse end bars 15 and longitudinal connecting-bars 16. The bars 14 have perforations for the reception of the stub-axle and hollow axle of the freezing-cylinder, and the same constitute bearings $16^a$. The longitudinal bars of the frame are provided with uniformly-disposed inclined paddles 17, those of one bar being inwardly disposed and terminating just short of the freezing-cylinder and those of the companion bar being outwardly disposed and terminating just short of the inner surface of the freezing-chamber. That bar of the beater-frame which receives the stub-shaft is further provided with a hollow shaft or sleeve 18, and both it and the stub-shaft are provided with pulleys, that of the stub-shaft being designated as 19 and that of the sleeve as 20. Endless belts 21, leading from a suitable motor to each of the pulleys 19 and 20, one of the belts being crossed, so that, although they derive motion from the same source, yet the pulleys 19 and 20 are driven

in opposite direction, so that in like manner do the cylinder and paddle-frame rotate in opposite directions.

In order to maintain the freezing-cylinder and paddle-frame snugly in their bearings, removable blocks 22 are provided, and said blocks are provided at their lower ends with half-bearings 23 and at opposite sides with grooves or ways which receive the edges of the opposite bearing-slots of the outer casing and freezing-chamber. These blocks may be removed by being drawn upwardly, as will be evident, and in a like manner after such withdrawal may the freezing-cylinder and paddle-frame be removed.

24 designates a distributing-tray, and the same is concaved upon its upper face, the concavity leading to a perforated bottom 25, through which perforations the cream in its melted state percolates and drops upon the freezing-cylinder. This tray is surmounted by a removable cover 26.

This completes the construction, and the operation of the invention is as follows: The freezing-cylinder is first filled with a mixture of salt and ice, as is also the space between the outer casing and the freezing-chamber. The cream is now poured into the tray and the machine started. As the cream falls from the pan it is aerated and thoroughly beaten by the beaters, which are rapidly revolving in a direction opposite to that of the freezing-cylinder. The cream becomes thoroughly chilled immediately upon its entrance into the freezing-chamber and before the action of the beaters can to any degree churn it. It will be observed that at any time during the operation of freezing the cover and tray may be removed and inspection of the cream be obtained without danger of salt and ice accidentally falling into the mixture. When a sufficient beating has been accomplished and the cream frozen to a sufficient degree, the cylinder and beaters may be removed and the packing-vessels to receive the cream pushed under the discharge-opening in the outer casing. A scraper, which I have herein shown as consisting of a semicircular blade 27 and handle 28, is now introduced into the freezing-chamber and employed to push the frozen mass toward the discharge-opening, through which it falls into the packing receptacle or vessel, and the cream is set aside to harden.

From the foregoing description, in connection with the accompanying drawings, it will be seen that I have provided an ice-cream-freezing machine adapted to freeze large and small quantities of cream and so constructed as to secure the best results obtainable in accordance with the approved mode of freezing—namely, by thorough beating and aeration of the cream to give to the same a smoothness which greatly improves the quality of the article.

Having described my invention, what I claim is—

1. In an ice-cream freezer, the combination, with the outer casing and the inner freezing-chamber, the latter having a curved bottom and the end walls of the chamber and casing having vertical slots terminating at their lower ends in bearings, said chamber and casing combining to form an intermediate ice-space and provided with a discharge, of a hollow freezing-cylinder provided at one end with a hollow axle and at its opposite end with an axle, a frame comprising opposite side and end bars mounted on the axles and adapted to revolve, beaters extending from the frame, and means for rotating the frame in one direction and the cylinder in the opposite direction, substantially as specified.

2. In an ice-cream freezer, the combination, with the outer casing and the inner freezing-chamber, the latter having a curved bottom and the end walls of the chamber and casing having vertical slots terminating at their lower ends in bearings, said chamber and casing combining to form an intermediate ice-space and provided with a discharge, of a hollow freezing-cylinder provided at one end with a hollow axle and at its opposite end with an axle, a frame comprising opposite side and end bars, mounted on the axles, a sleeve extending from one end of the frame and receiving loosely the slotted axle, pulleys, and belts for driving them in opposite directions, substantially as specified.

3. In an ice-cream freezer, the combination, with the outer casing comprising opposite slotted end walls, a curved connecting bottom, an inner casing located in the outer casing and provided in the bottom with slotted end walls and with a discharge communicating with that of the inner casing, of a hollow cylinder having opposite axles extending from its ends, one of said axles being hollow, a beater-frame loosely mounted on the axles, means for operating the frame and cylinder in opposite directions, a tray surmounting the freezing-chamber and provided with a series of perforations, and a cover for the tray, substantially as specified.

4. In an ice-cream freezer, the combination, with the outer casing and the inner freezing-chamber, the same having a discharge and forming an intermediate ice-space, the end walls of the casing and chamber being slotted and having their edges connected, of a hollow freezing-cylinder having opposite axles, one of which is hollow, mounted in the slots, means for revolving the cylinder, and opposite blocks having their edges grooved to embrace the edges of the slots of the end walls and having their lower ends recessed to form half-bearings, substantially as specified.

5. In an ice-cream freezer, the combination, with the outer casing, the inner freezing-chamber, the same having a discharge, and a superimposed distributing device, the end walls of the casing and chamber being provided with bearings, of a hollow freezing-cylinder having axles, one of which is hollow, a rectangular frame, the end bars of which are

provided with bearing-openings for the reception of the axles, means for rotating the cylinder and frame in opposite directions, and inclined blades or paddles, a series of which extend inwardly from one of the side bars of the frame and terminate adjacent to the surface of the cylinder, a second series of which extend upwardly from the remaining side bar of the frame and extend adjacent to the curved inner surface of the refrigerating-chamber, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN E. NEWHOUSE.

Witnesses:

LETTIE J. GREEN,

MARGARET M. STRICKER.