

No. 883,570.

PATENTED MAR. 31, 1908.

M. A. ROWE.
ICE CREAM FREEZER.
APPLICATION FILED MAY 6, 1907.

Fig. 1.

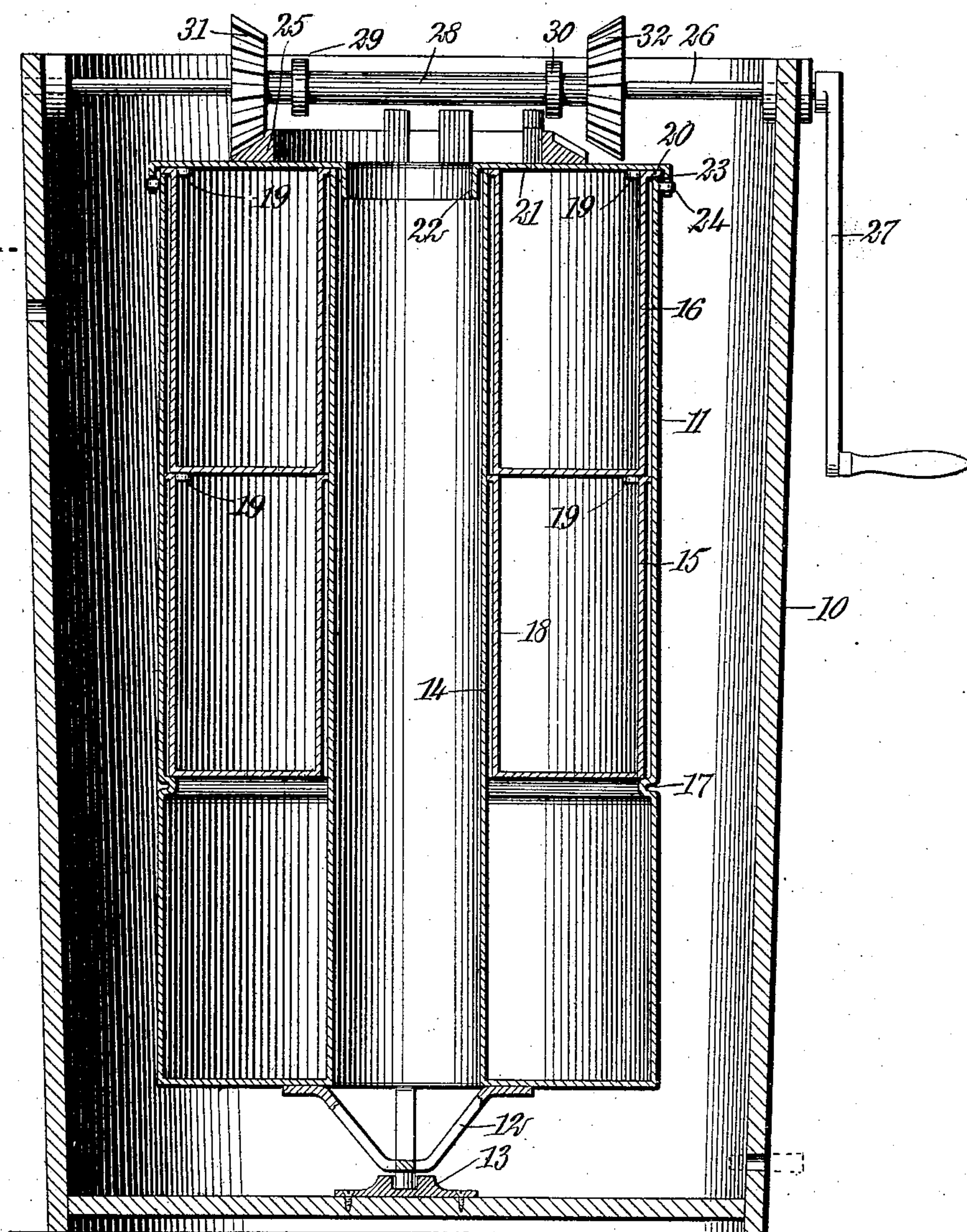
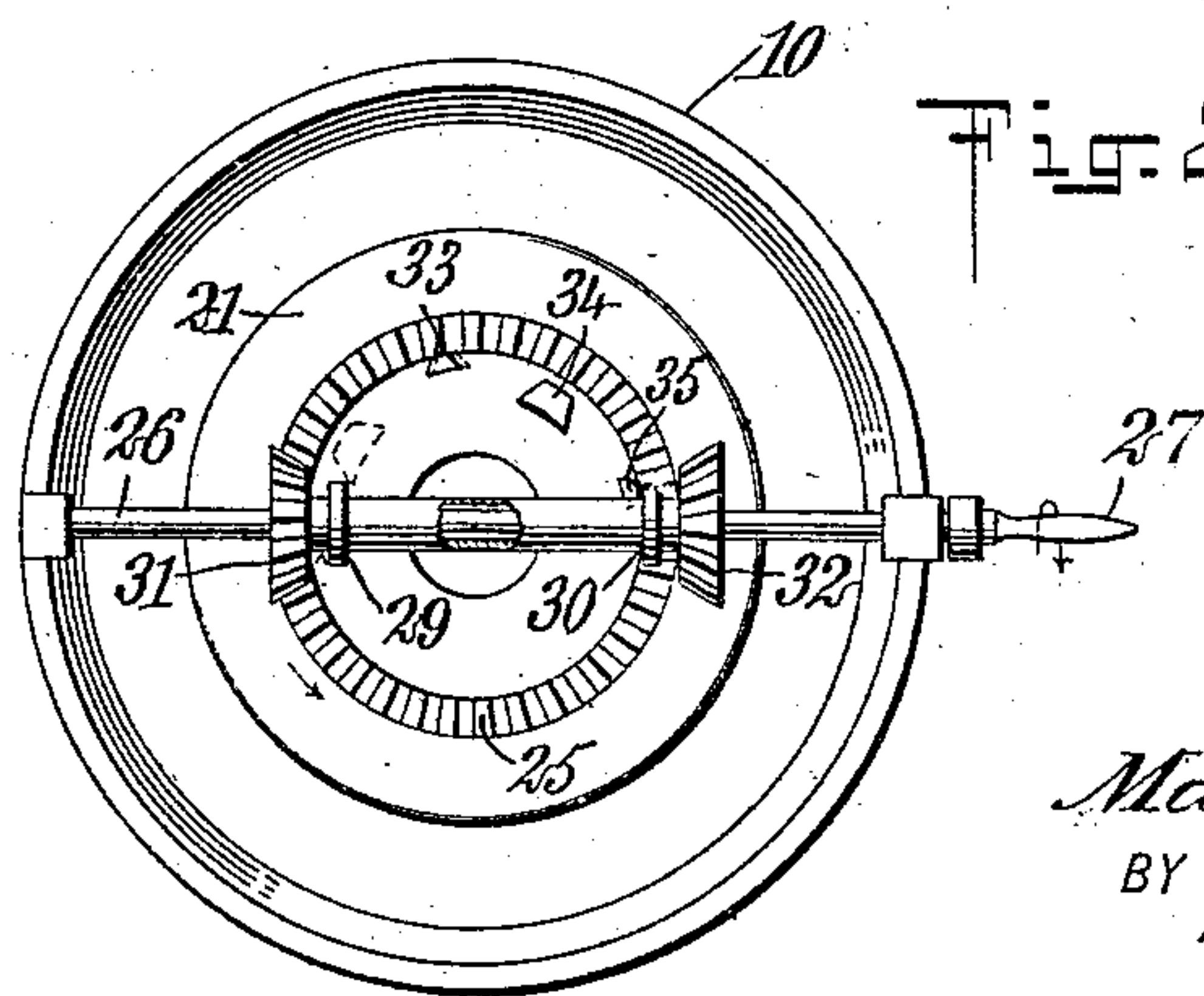


Fig. 2.



WITNESSES

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MARY A. ROWE, OF WEST HOBOKEN, NEW JERSEY.

ICE-CREAM FREEZER.

No. 883,570.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed May 6, 1907. Serial No. 372,243.

To all whom it may concern:

Be it known that I, MARY A. ROWE, a citizen of the United States, and a resident of West Hoboken, in the county of Hudson and State of New Jersey, have invented a new and Improved Ice-Cream Freezer, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in ice cream freezers, and the object of the invention is to provide a freezer in which a plurality of different substances may be frozen at the same time in the same device, and the materials thoroughly and efficiently agitated without the use of special stirring mechanism. The containers for the materials to be frozen are provided with a central tube, whereby the freezing medium may be applied both externally and internally, and at the same time an annular chamber is formed within which the materials are caused to rapidly circulate in opposite directions upon the oscillation of the containers.

The invention consists in certain features of construction and combination of parts, all of which will be fully set forth hereinafter and particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures, and in which

Figure 1 is a central vertical section through a freezer embodying my invention; and Fig. 2 is a top plan view thereof on a smaller scale.

In my improved freezer I employ an outer tub 10 of any suitable construction commonly employed for similar purposes, and within the tub and spaced therefrom is located the main freezing can 11. The can is spaced from the tub a sufficient distance for the reception of the freezing medium, and is supported at the bottom upon a suitable spider or bracket 12 having a pivot pin fitting within a socket within a base plate 13. The can is provided with a centrally disposed tube 14 extending upward therethrough, and the space within the tube is in open communication with the tub at the top and bottom thereof. The can is adapted for the

freezing of a plurality of different substances at the same time, and to provide for the reception of these substances, I construct one or more secondary or smaller cans fitting within the outer can and each serving to receive a different substance.

In the specific form of my invention illustrated in the accompanying drawings, there are provided two separate interior cans 15 and 16, each annular in form, and each of a volume substantially equal to one-third of the main outer can 11. For supporting these inner cans, the can 11 is provided with suitable lugs or projections extending inwardly from the outer wall thereof and at approximately one-third the height of the can. These lugs or projections may be of any form whatsoever, but preferably comprise a single annular bead 17 extending inwardly from the outer wall of the can 11 and serving as a shoulder to support the can 15. The last mentioned can is of slightly smaller diameter than the can 11, and the central tube 18 of this can is slightly larger than the central tube 14 of the can 11, whereby the can 15 may be readily slipped into place and rest upon the bead 17. For preventing any material from the can 15 overflowing or becoming spilled from the space between this can and the outer one, I provide both the outer wall of the can 15 and the tube 18 with flanges which engage with the outer wall of the can 11 and the tube 14. These flanges serve to effectively seal the upper end of the two annular spaces and prevent the entrance of any material into said spaces. For removing the can 15, it is preferably provided with two inwardly directed lugs 19 upon opposite sides thereof, as is clearly indicated in Fig. 1.

The second interior can 16 is exactly the same as the can 15, and rests directly upon the flanges of said can. If desired, the outwardly extending flange 20 of the can 16 may rest upon the top of the outer wall of the can 11 to more effectively support the can and prevent the entrance of any spilled material into the space between said cans. The top of the can 11 is provided with a closure 21, preferably annular in form and having an inner flange 22 engaging with the inner

surface of the tube 14, and an outer flange 23 engaging with the outer surface of the main wall of the can. The can of the tube, preferably the former, is provided with any
5 suitable form of projection or lug 24 engaging in recesses in the corresponding flange of the can, whereby the can may be caused to rotate by the rotation of the cover.

In the operation of my improved freezer,
10 the material to be frozen is placed in the outer can 11, and a second and third substance may be placed in the cans 15 and 16, and the parts assembled as shown in the drawings. The refrigerant material con-
15 tacts with the outer wall of the can 11 and also with the tube 14, whereby the annular chambers are cooled both externally and internally. To agitate the material and secure an even and uniform freezing thereof,
20 means are provided for oscillating all of the cans. The can is moved first in one direction and then in the other, whereby the cream or other substance is caused to circulate back and forth in opposite directions in
25 the annular space, and become as effectively agitated as though a special agitator were provided. Any suitable means may be provided for rapidly rotating the can 11 first in one direction and then in the other,
30 the mechanism illustrated in the drawings merely comprising one form suitable for the purpose.

As illustrated, the can cover 21 is provided with a bevel gear 25 upon the surface there-
35 of, and directly above the can is mounted a suitable shaft 26 having its ends journaled upon the opposite sides of the hub 10, and having a suitable operating handle 27. Slidably mounted upon the shaft and rota-
40 table therewith, is provided a sleeve 28 having annular flanges 29 and 30 adjacent its ends, and bevel gears 31 and 32, either one of which may be brought into mesh with the bevel gear 25. For reversing the direction
45 of rotation of the can, I provide the cover 21 with a plurality of lugs adapted to engage with the flanges 29 and move the sleeve longitudinally to move one gear wheel out of engagement with the gear 25 and bring the
50 other gear wheel into mesh therewith. These lugs are preferably three in number, all of them so located as to engage with the flanges 29 and 30. The shape and position of the lugs are more clearly shown in Fig. 2, and the
55 reversing operation is secured in the following manner: Starting with the parts in the position indicated in Fig. 2, a rotation of the handle in the direction indicated by the arrow, will cause the can and cover to rotate.
60 The lug 33 passes the flange 29 without engaging therewith, but at approximately the time the lug 33 reaches the other surface of the flange, the lug 34 engages with the inner

surface of the flange 29 and by reason of the inclined surface of said lug, moves the flange 65 longitudinally until the gear wheel 31 no longer meshes with the gear wheel 25, and the gear wheel 32 is brought into mesh therewith. As soon as the gear wheel 32 comes into operation, the can starts rotating in the 70 opposite direction, but the teeth of the two gear wheels are not thoroughly and completely in mesh with each other. The lug 33 which has previously passed the flange 29 without engaging therewith, now upon the return 75 movement engages with the inner surface of the flange and pushes it still further outward to the limiting position, and brings the gear wheels 32 and 25 into full and complete engagement. The parts continue thus ro- 80 tating in this direction until the lug 34 reaches the flange 30, at which time a second reversal takes place. A third lug 35 is provided similar to the lug 33 and oppositely disposed in respect thereto, which lug serves 85 to force the flange 30 outward to its limiting position and effect the full and complete engagement of the gear 31 with the gear 25.

By means of the mechanism above described, a plurality of different substances 90 may be frozen simultaneously, and all liability of the substances becoming mixed is positively prevented.

It is known to be old to oscillate the cream can of an ice cream freezer, and it is also 95 known to be old to provide cream cans with centrally disposed tubes into which a refrigerant material may be placed, but by combining these two features, namely, the an- 100 nular chamber and the oscillating motion, a far more thorough agitation and effective freezing is secured than is otherwise possible without the use of an agitator.

Having thus described my invention, I claim as new and desire to secure by Letters 105 Patent:

1. In an ice-cream freezer, the combination of a freezing can having concentric walls forming therebetween an annular chamber, one of said walls presenting an in- 110 wardly-directed projection intermediate the height thereof, a second annular can supported within the first-mentioned can and upon said projection, a cover common to both of said cans, and means in engagement 115 with said cover for oscillating the cans.

2. In an ice cream freezer, the combination of a freezing can having a centrally disposed open-ended tube adapted to receive a freezing agent and forming with the walls 120 thereof an annular chamber, an inwardly directed bead upon the wall of said can intermediate the height thereof, a second annular can supported within the first mentioned can and upon said bead, said last 125 mentioned can having flanges adapted to en-

gage with the outer wall of said can and said
tube, inwardly directed lugs within said
second can and serving as handles to facili-
tate the removal thereof, a common cover
5 for said outer and inner cans, and means in
engagement with said cover for oscillating
said cans.

In testimony whereof I have signed my
name to this specification in the presence of
two subscribing witnesses.

MARY A. ROWE.

Witnesses:

CLAIR W. FAIRBANK,
JOHN P. DAVIS.