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L. CAMPBELL JR

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ICELESS REFRIGERATOR

Filed Sept. 11, 1929

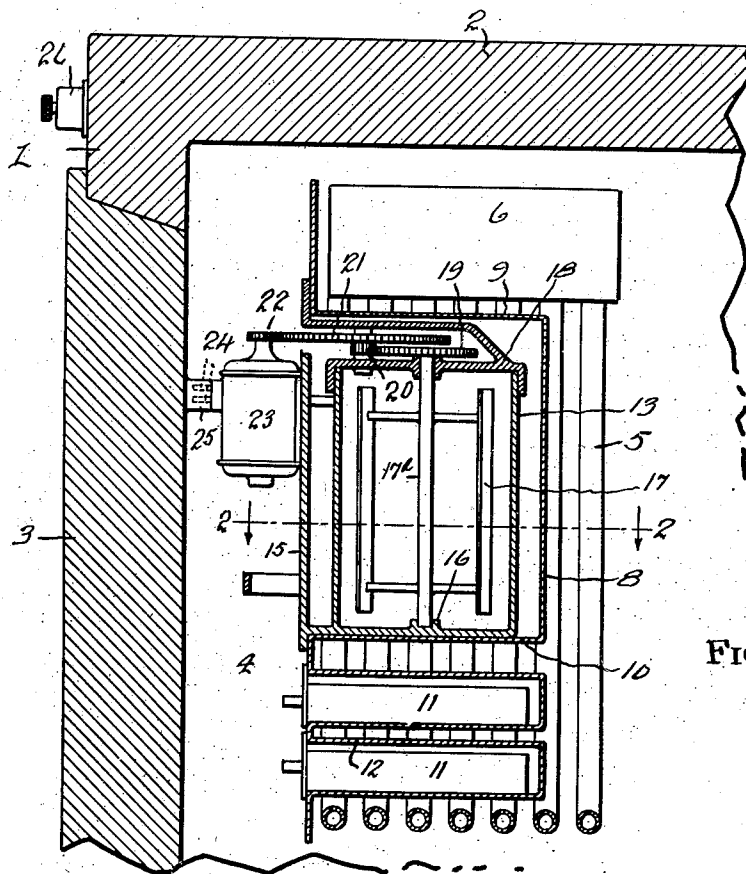
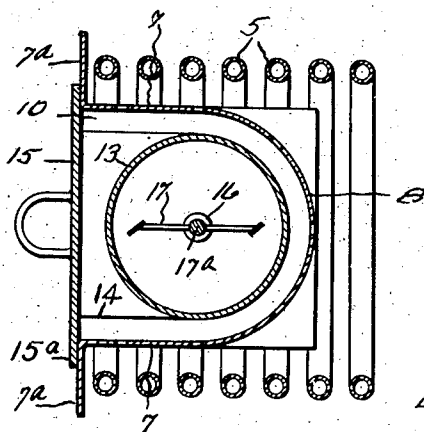


FIG. 1

FIG. 2



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ICELESS REFRIGERATOR

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This invention relates to what are known to the trade as apparatus for iceless refrigeration, and has for its general object to provide for such apparatus means whereby frozen confections may be prepared therein in a simple and convenient manner, and particularly to enable such confections to be made by the process of stirring, such as usually employed in ice-cream freezers, with the resultant advantages in the composition and flavoring of the frozen product.

A more limited object of the invention is to provide, for apparatus of the character referred to, a freezer unit which is capable of being readily inserted into and removed from such apparatus and of being conveniently and safely operated while therein.

Further and more limited objects of the invention will appear hereinafter and will be realized in and through the construction and arrangement of parts shown in the drawing, wherein Fig. 1 represents a vertical sectional view through a portion of an iceless refrigerator having my invention applied thereto; and Fig. 2 a sectional view corresponding to the line 2-2 of Fig. 1.

Describing the parts by reference characters, 1 denotes the front wall, 2 the top wall, and 3 a door in the front of the casing of an iceless refrigerator of any standard type, the door opening into the chamber 4 containing the refrigerating coil, indicated generally at 5 and 6. Within the coil there is a refrigerating chamber comprising perforated side walls 7, a rear wall 8, a top wall 9 and a bottom wall 10. This bottom wall may support trays 11, such as are usually employed for the making of ice cubes, with a partition 12 above the lower tray.

Removably insertable into the said chamber is a freezer unit, the same being shown as consisting of a cylindrical receptacle 13 from opposite sides of which there extend side walls 14 which are united with a front wall 15 having side flanges 15^a which are adapted to engage corresponding flanges 7^a on the front of the walls 7. The bottom of the receptacle 13 is provided with the usual journal 16 for the shaft 17^a of the stirrer 17, the upper end of the shaft being journaled in a

removable cover 18. The top of the shaft 17^a is provided with a gear 19 meshing with a pinion 20, on the shaft of which is mounted a gear 21, which in turn meshes with a pinion 22 on a motor 23, shown as conveniently mounted on the front wall 15 of the freezer assembly, where it is not exposed to the extreme cooling temperature. It will be noted that the reduction gearing 21, 20 and 19 is mounted upon the cover of the freezer and removable therefrom together with the stirrer 17.

The motor is shown as provided with a pair of switch projections or blades 24 adapted to enter corresponding recesses in a cooperating switch member 25 carried by the door 3. Current is supplied to the member 25 by means of a switch 26 which may be mounted on the front of the apparatus. The manner of mounting the motor and the arrangement of its switch 24, 25 prevents the operator from short-circuiting the switch members of the motor and the door, and thus receiving a shock. Furthermore, due to the construction and arrangement of the freezer unit whereby the freezing receptacle and the stirring shaft are in a vertical position when the unit is inserted within the refrigerating chamber, there can be no danger of the ingredients leaking out around the shaft.

The device shown herein is simple of construction and economical of production and may be readily incorporated into existing types of iceless refrigerators, and has the advantage over the usual devices for preparing frozen confections in apparatus of this character that the confection produced hereby is one in which the stirring process is employed, with the corresponding advantages in the composition, flavor, and smoothness of the product.

Having thus described my invention, what I claim is:

1. An iceless refrigerating apparatus comprising a casing having a refrigerating chamber therein, a freezer unit adapted to be inserted into and removed from said chamber, the said unit having a base adapted to rest upon the base of said refrigerating chamber, a cylindrical receptacle extending vertically

upward from the base of said unit, a stirring shaft mounted in the cylinder and extending vertically upward from the base thereof, a cover for the top of the said receptacle through which the upper end of the said shaft extends, reduction gearing carried by said cover for driving the said shaft, the said unit having a front wall adapted to engage the front of the refrigerating chamber, and a motor carried by the front wall of the said unit arranged to drive the said reduction gearing.

2. An iceless refrigerating apparatus comprising a casing having a refrigerating chamber therein, a freezer unit adapted to be inserted into and removed from said chamber, the said unit having a base adapted to rest upon the base of said refrigerating chamber, a cylindrical receptacle extending vertically upward from the base of said unit, a stirring shaft mounted in the cylinder and extending vertically upward from the base thereof, a cover for the top of the said receptacle through which the upper end of the said shaft extends, reduction gearing carried by said cover for driving the said shaft, a motor carried by said unit for driving the said reduction gearing and interposed between the front of said unit and the front of the casing, a door for said casing a switch member for the said motor, and a cooperating switch member carried by the said door and adapted to engage the first mentioned switch member by the closing of the door whereby the motor circuit will be closed by the closing of said door and will be broken by the opening of said door.

3. An iceless refrigerating apparatus comprising a casing having a refrigerating chamber therein, a freezer unit adapted to be inserted into and removed from said chamber, the said unit having a base, a cylindrical receptacle extending vertically upward from the base of said unit, a stirring shaft mounted in the cylinder and extending vertically upward from the base thereof, a cover for the top of the said receptacle through which the upper end of the said shaft extends, reduction gearing carried by said cover for driving the said shaft, the said unit having a front wall forming a closure for the front of the refrigerating chamber, and a motor carried by the front wall of the said unit arranged to drive the said reduction gearing.

In testimony whereof, I hereunto affix my signature.

LORN CAMPBELL, JR.