J. CLARK.

ICE CREAM FREEZER.

APPLICATION FILED OCT. 17, 1919.

1,351,622.

Patented Aug. 31, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

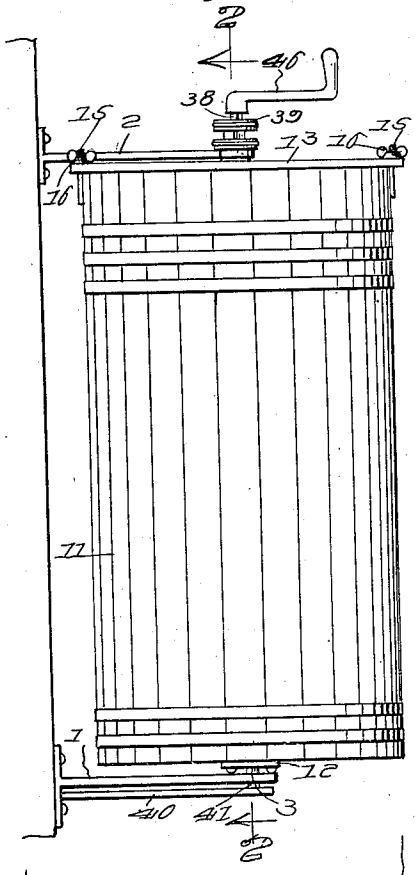
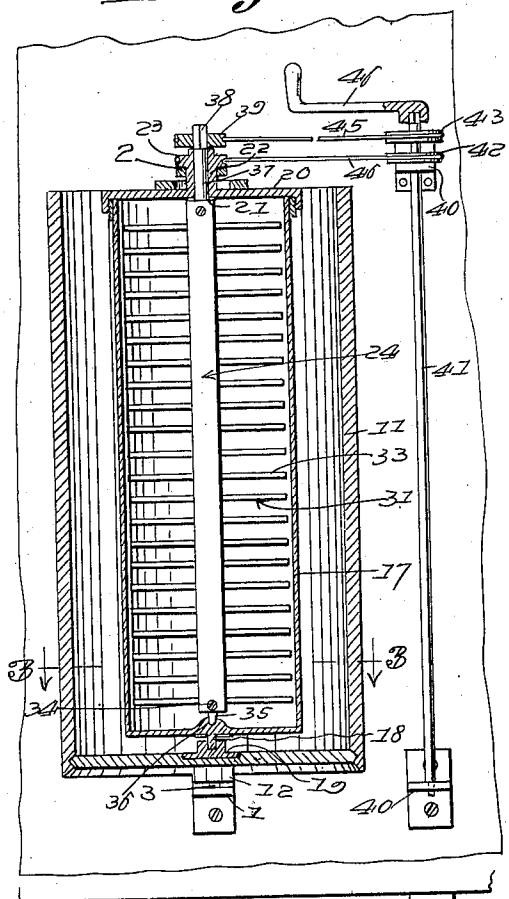


Fig. 2.



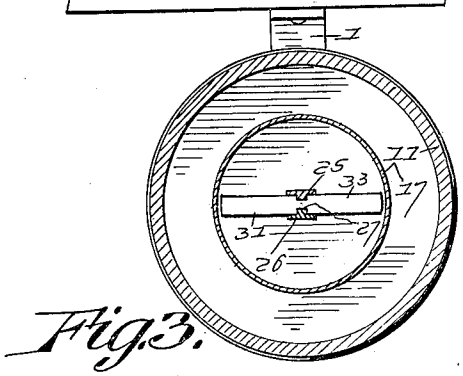


Fig. 3.

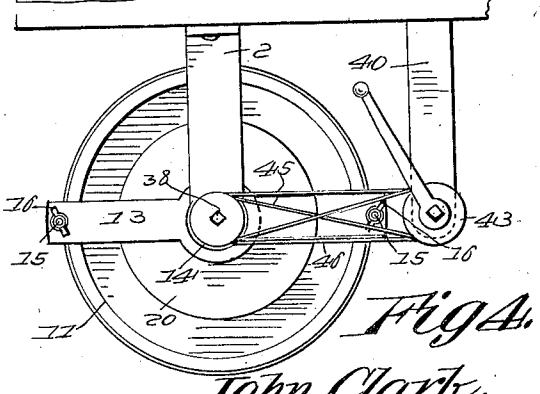


Fig. 4.

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2 SHEETS—SHEET 2.

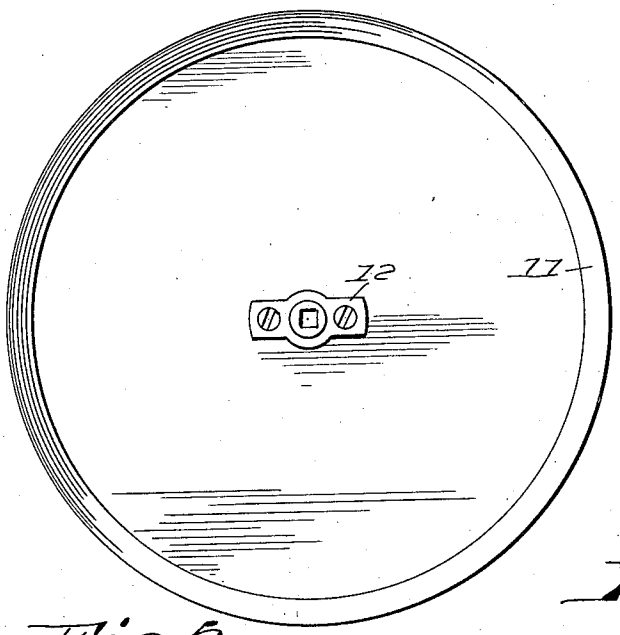


Fig. 5.

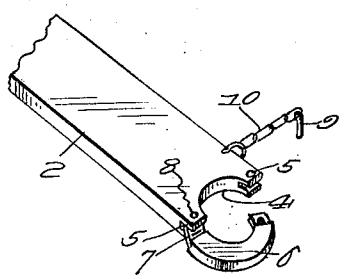


Fig. 6.

Fig. 8. Fig. 9.

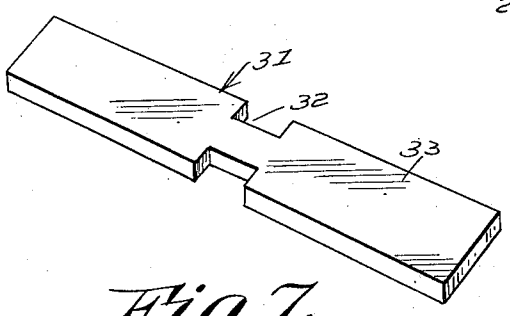
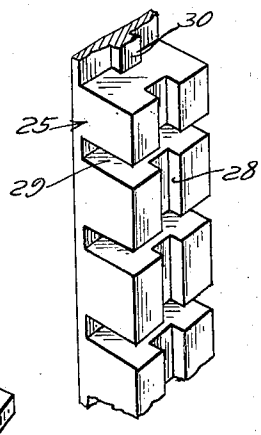
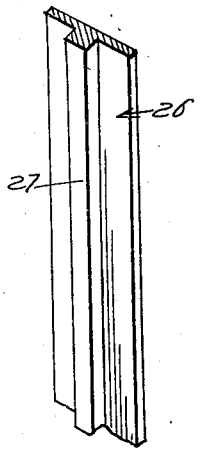


Fig. 7.





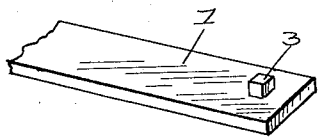


Fig. 10.

John Clark,
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UNITED STATES PATENT OFFICE.

JOHN CLARK, OF FLINT, MICHIGAN.

ICE-CREAM FREEZER.

1,351,622. Specification of Letters Patent. Patented Aug. 31, 1920.

Application filed October 17, 1919. Serial No. 331,364.

To all whom it may concern:

Be it known that I, JOHN CLARK, a citizen of the United States, residing at Flint, in the county of Genesee and State of Michigan have invented certain new and useful Improvements in Ice-Cream Freezers, of which the following is a specification.

The present invention comprehends generally improvements in that class of inventions known as agitating and more particularly relates to an ice cream freezer.

It is the principal aim and object of the present invention to provide a device of the above mentioned character wherein agitating means of an improved construction is employed for insuring of the thorough mixing of the material during the operation of the device and at the same time is capable of being quickly taken apart so that the component parts may be cleaned.

It is an equally important object of this invention to provide a device of the above mentioned character wherein improved means is provided for mounting the inner or material containing receptacle and the agitating means while acting in conjunction therewith is suitable means for operating the agitating means and receptacle in opposite directions.

The invention also embraces the provision of a device of the above mentioned character wherein improved means is employed for releasably supporting the mean stationary receptacle in a proper position.

Among the other aims and objects of this invention may be recited the provision of a device of the above mentioned character wherein the number of parts are comparatively few, the construction simple, the cost of production low and the efficiency high.

The improvements in the details and arrangement of parts will be apparent from an inspection of the accompanying drawings, in connection with the specific description hereinafter contained, and wherein the preferred embodiment of the invention is disclosed for the purpose of imparting a full understanding of the invention.

The invention is clearly illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation,

Fig. 2 is a vertical cross sectional view thereof, taken on line 2—2 of Fig. 1 in the direction in which the arrows point,

Fig. 3 is a horizontal sectional view taken on line 3—3 of Fig. 2 in the direction in which the arrows point,

Fig. 4 is a top plan view of the device,

Fig. 5 is an enlarged bottom plan view of the main receptacle,

Fig. 6 is a perspective detail of one of the supporting brackets for the main receptacle

Fig. 7 is a perspective detail of one of the agitating members,

Fig. 8 is a perspective detail of one section of the supporting shaft,

Fig. 9 is a perspective detail of the other section of the supporting shaft, and

Fig. 10 is a perspective detail of the lower supporting bracket for the main receptacle.

Similar characters of reference are employed in all of the above described views, to indicate corresponding parts.

Referring now, more particularly, to the accompanying drawings there are provided spaced supporting brackets 1 and 2, the lower of which is desirably formed near its outer end with a stud 3, preferably square in cross section, while the outer edge of the upper bracket is formed with a curved recess 4 while the portions of the bracket lying to the sides of the recess are bifurcated forming spaced pairs of horizontally disposed ears 5. An arm 6 curved to conform to the curvature of the recess 4 is now employed, the respective ends being reduced, one reduced end 7 being pivoted between one pair of the ears 5 by a suitable fastener such as a pin 8 while the other reduced end is apertured and at times is receivable between the other pair of ears 5 and releasably locked in engaged position by means of a locking pin 9 which is preferably flexibly connected to the upper arm through the instrumentality of a chain 10.

A main outer receptacle 11 is now disposed between the arms or brackets 1 and 2 and has attached centrally to its under surface a recess bearing plate 12 which is engaged over the stud 3 for insuring of the maintenance of the receptacle in a stationary position. A cross bar 13 is disposed across the upper edge of the main receptacle and is formed medially of its ends with a large bearing opening 14 while its opposite ends are apertured and releasably fitted over the oppositely positioned threaded pins 15 which project from the upper edge of the main receptacle, while clamping elements such as wing nuts 16 are engaged with the

threaded pins for clamping the cross bar in position.

Removably arranged within the main receptacle is a material receiving receptacle 17 the lower portion of which is rotatably mounted in the main receptacle, preferably by means of a depending stud 18 which projects centrally from the under surface of the bottom and which is journaled in a recessed bearing 19 carried centrally on the upper surface of the bottom of the main receptacle. Removably telescoped on the upper edge of the receptacle 17 is a flanged cover 20 which is formed with a central opening 21 while integral with the cover about the opening is an upstanding collar 22. This collar is arranged through the bearing opening 14 and the recess 4, and engaged by the curved arm 6 so as to insure of the effective rotatable supporting of the upper part of the inner receptacle. A peripherally grooved collar 23 is formed integral with the upstanding collar 22 near the upper end thereof and acts as a pulley wheel for a purpose that will presently appear.

As intimated, improved agitating means has been employed and in reducing this feature of the invention to practice there is provided a shaft indicated in its entirety by the numeral 24 and preferably composed of sections 25 and 26. The section 25 is substantially rectangular in cross section while the section 26 is constructed in a plate-like form and has formed integrally with one face a vertically disposed rib 27 designed to engage the adjacent vertical groove 28 in the section 25 when the sections are fitted together. In addition, the section 25 is provided with a vertical series of horizontally disposed grooves 29, the inner walls of which are formed medially of the side edges with lugs 30 both for a purpose that will appear. A plurality of relatively narrow and flat agitating bars generally designated by the numeral 31 each have their side edges formed with opposed recesses 32 at points medially of the ends, the end portions of the bars being designed to act as agitating blades 33 when the recessed portions are fitted in the horizontal grooves and locked against displacement by the rib 27 and the adjacent lugs 30 which engage the recesses 32, as is apparent. Suitable fasteners such as screws 34 are anchored near the ends of the sections for detachably fastening the sections of the shaft together and for preventing the accidental displacement of the agitating bars. The shaft and bars form a substantial paddle while a stud 35 is formed on the lower end of the section 25 and is journaled in a recessed bearing 36 formed centrally on the upper surface of the bottom of the material containing receptacle 17. The upper portion of the section 25 is rounded as at 37 and journaled through the upstanding collar 22, the extreme upper end of the rounded portion being squared as at 38 and designed to receive a pulley wheel 39 for a purpose which will presently appear.

Suitable means for rotating the shaft and the inner receptacle 17 in opposite directions, in the present instance may be said to consist of spaced brackets 40 in which is journaled a vertical shaft 41. Carried by the upper portion of the shaft are spaced pulley wheels 42 and 43 which are respectively arranged in opposed relation to the collar or wheel 23 and the pulley wheel 39. Belts 44 and 45 are trained about the respectively opposed pulley wheels while the upper belt 45 is crossed as shown in Fig. 4, to insure of the rotation of the shaft 43 in an opposite direction to the rotation of the receptacle 17. Suitable operating means such as a crank handle 46 is detachably connected to the upper squared end of the shaft 41 to facilitate the rotation of the latter to insure of the operation of the device.

In use, upon rotating the handle 46 rotary motion will be transmitted from the shaft 41 to the shaft 24 by means of the belt and pulley wheels 43, 39 and 45 respectively and likewise rotary motion will be transmitted from the shaft 41 to the receptacle 17 by means of the belt 46 which operates about the pulley wheel 42 on the shaft 41 and the grooved collar or pulley wheel 23 which is formed with the collar 22 on the cover of the receptacle 17, the crossing of the belt 45 insuring of the rotation of the shaft and receptacle 17 in opposite directions. In detaching the parts, it is only necessary to remove the pulley wheels 39 from the shaft and release the locking pin 9 and then raise or remove the cover 20 and at the same time remove the cross bar subsequent of course to unscrewing the wing nuts 16, the agitating means may now be removed from the receptacle 17 and disconnected and cleaned while likewise the receptacle 17 may be removed from the main receptacle which latter in turn may be removed from the supporting bracket. It is of course apparent that when ice cream is being made, the material is placed in the receptacle 17 while the main receptacle is filled with ice but of course when butter is being churned, the main receptacle is left empty.

It is believed in view of the foregoing description that a further detailed description of the operation of the invention is entirely unnecessary. Likewise it is believed that the advantages of the invention will be readily apparent.

Still further embodiments of the invention than those herein especially defined may be resorted to as conditions or preference

may dictate, as may be in keeping with the hereto appended claims.

What I claim, is:

1. In a device of the character described, agitating means including a shaft composed of separable sections, one of the sections formed with a vertical groove and a plurality of horizontal grooves, a rib formed on the other section receivable in the vertical groove in the first section, a plurality of bars having recesses formed in their side edges and positioned in the horizontal grooves with the rib engaging in some of the recesses, means formed on the inner walls of the horizontal grooves for engaging in the remaining recesses, and means for fastening the sections together whereby to clamp the bars in position between the sections.

2. In a device of the character described, agitating means including a shaft composed of two sections, a plurality of bars, one of the shaft sections being designed to receive the bars, both of the sections being designed to engage the bars to prevent relative movement between the bars and the sections, and means for detachably fastening the sections together whereby to clamp the bars in position between the sections.

3. In a device of the character described, agitating means including a shaft composed of two sections one of which is rectangular in cross section and formed with a vertical groove in one face and with a plurality of horizontal grooves intersecting the vertical groove, a lug formed medially of the ends of the inner wall of each horizontal groove, the other section being plate-like in form, a vertical rib carried by one face of the plate-like section, a plurality of bars each having opposed recesses formed in its side edges medially of the ends, the bars being positioned in the horizontal grooves and the recesses being engaged by the lug and the rib when the sections are arranged together, and means for detachably fastening the sections together.

4. In a device of the character described, agitating means including a plurality of bars formed with opposed recesses medially of the ends, the end portions of the bars constituting blades, a shaft one section of which is designed to receive the bars in superposed spaced relation, coöperative means on both sections of the shaft for engagement with the recesses in the bars for preventing relative movement between the bars and the sections, means for detachably fastening the sections together and for clamping the bars so that the blade portions will project from opposite sides of the shaft.

5. In a device of the character described including a main stationary receptacle, a material containing receptacle disposed within the main receptacle, coöperative means on the bottoms of both of the receptacles for rotatably supporting the lower portion of the second-mentioned receptacle, a removable cover for the second mentioned receptacle, having an opening therein, an upstanding collar integral with the cover about the opening, an annular enlargement on the collar provided with a groove and constituting a drive pulley, a cross bar detachably connected to the upper edge of the main receptacle and having a central bearing opening therein for engaging the collar beneath the enlargement to insure of the rotatable supporting of the upper portion of the second mentioned receptacle, an arcuate arm pivoted to the cross bar for retaining the collar in the opening, a removable pin for locking the arm in position about the collar, an agitator including a shaft the ends of which are journaled in the bottom of the second mentioned receptacle and through the collar, and means engaging the shaft and the pulley on the collar for rotating the shaft and the collar in opposite directions so that the second mentioned receptacle and the agitator will consequently rotate in opposite directions.

In testimony whereof I affix my signature hereto.

JOHN CLARK