

No. 627,492.

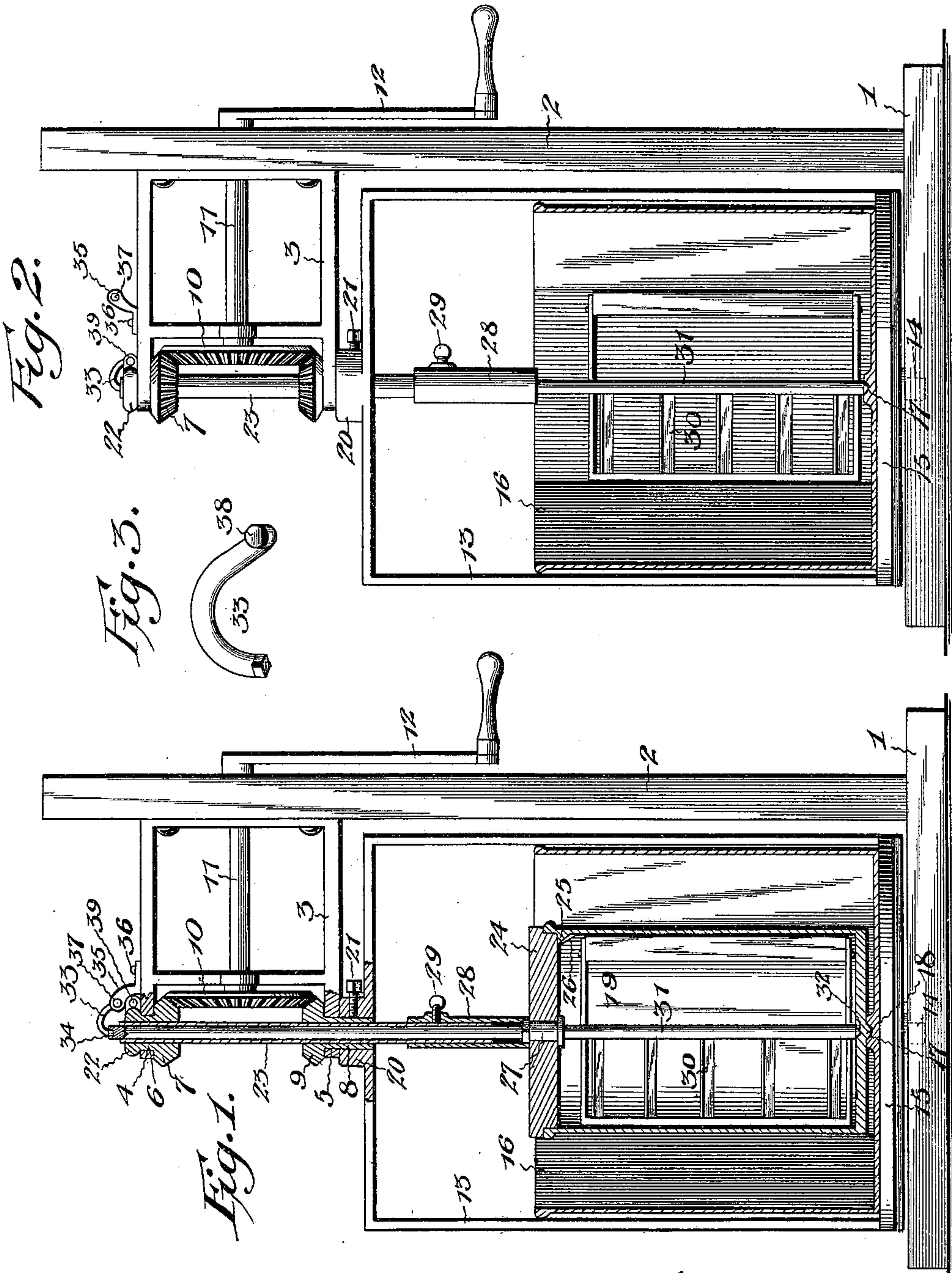
Patented June 27, 1899.

J. EVERHARD.

CONVERTIBLE CHURN AND ICE CREAM FREEZER.

(Application filed June 23, 1898.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH EVERHARD, OF ROUND ROCK, TEXAS.

CONVERTIBLE CHURN AND ICE-CREAM FREEZER.

SPECIFICATION forming part of Letters Patent No. 627,492, dated June 27, 1899.

Application filed June 23, 1898. Serial No. 684,283. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH EVERHARD, a citizen of the United States, residing at Round Rock, in the county of Williamson and State of Texas, have invented a new and useful Convertible Churn and Ice-Cream Freezer, of which the following is a specification.

My invention relates to churns, and particularly to a convertible churn and ice-cream freezer, having for its object to provide such a construction and arrangement of parts as to enable me with a slight readjustment or rearrangement of the parts to adapt the apparatus for use either as a churn or an ice-cream freezer.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a vertical sectional view of an apparatus constructed in accordance with my invention with its parts adapted for use as an ice-cream freezer. Fig. 2 is a similar view of the apparatus, showing the parts adapted for use as a churn. Fig. 3 is a detail view of the clutch-arm detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The apparatus embodying my invention includes a supporting-frame having a base 1, a standard 2 rising from the base, and a bracket 3, having upper and lower connected arms extending horizontally from the standard and provided at their extremities with aligned bearings 4 and 5. In the upper bearing 4 is mounted the tubular hub or spindle 6 of an upper bevel-gear 7, and in the lower bearing 5 is mounted the tubular hub or spindle 8 of a lower bevel-gear 9, said gears 7 and 9 being in permanent mesh with a master or driving gear 10, carried by a driving-shaft 11, having any suitable operating devices, such as a crank-arm 12.

Mounted upon the supporting-frame is a revoluble receptacle-carrying frame 13 of open construction, said revoluble frame being provided at its lower end with a depending spindle 14, seated in a suitable socket in the base 1 of the supporting-frame and having a platform 15, forming a suitable seat for

a receptacle 16, adapted for use as a churn-receptacle. This outer or large receptacle 16 is provided in the center of its bottom with a socket 17, in which, as indicated in Fig. 1, may be seated a bearing projection 18 at the center of the bottom of an inner or smaller receptacle 19, mounted within the outer receptacle 16 and adapted to serve as a cream-receptacle when the apparatus is arranged for use as an ice-cream freezer. The revoluble frame 13 is provided at the center of its upper end with a collar 20, which is fitted upon the lower projecting end of the hub or spindle 8 of the lower bevel-pinion 9 and is secured to said hub or spindle in order to receive rotary motion from the pinion 9 by means of a set-screw 21.

The upper bevel-pinion 7 has its sleeve 6 provided above the plane of the contiguous arm of the supporting-bracket with a collar 22, said pinion 7 and collar 22 being secured to a hollow shaft 23, which extends axially through said parts and also through the lower pinion 9 and its hub or sleeve 8, whereby it will be seen that the hollow or tubular shaft is adapted to receive rotary motion in the opposite direction to the pinion 9, and hence to the revoluble frame 13.

The inner receptacle 19 is provided with a lid or cover 24, having an interlocking connection with the body of the can in order to communicate rotary motion from the lid or cover to the body of the can, said connection consisting of engaging lugs 25 and 26 on said lid and can, and arranged centrally in the lid or cover is a collar 27 in alinement with the tubular shaft 23 and adapted for engagement by a sliding sleeve 28, which is mounted exteriorly upon said tubular shaft. Any suitable interlocking connection may be provided between said sleeve and the collar on the lid or cover of the inner receptacle, such as engaging squared portions of said parts, and the sleeve may be locked at the desired axial adjustment upon the shaft 23 by means of a set-screw 29. Therefore inasmuch as the hollow shaft 23 and the revoluble frame 13 are adapted to be rotated in opposite directions and as the inner receptacle is connected with the hollow shaft, while the outer receptacle is carried by said revoluble frame, it is obvious that with the parts arranged as above described

and as illustrated in Fig. 1 the inner and outer receptacles will be rotated in opposite directions.

In connection with the above-described mechanism I employ a dasher 30, of any suitable construction, (that which is illustrated in the drawings being designed simply to show one form which may be used in connection with the apparatus,) of which the stem 31 is stepped at its lower end in a socket 32 in the bottom of the inner receptacle and extends axially through the collar 27 and the hollow shaft 23 to a point near the upper end of the latter. When the apparatus is used as an ice-cream freezer, this dasher-stem should be held against rotation in order to beat the contents of the inner receptacle during the freezing operation, and the means which I have adopted for thus securing the dasher-stem consists of a clutch-arm 33, having a squared inner end seated in a socket 34 in the upper end of the dasher-stem and engaged at its outer end with a stop 35, mounted upon the supporting-bracket 3. This stop is adjustably mounted upon the bracket by means of a pivot 36, whereby the terminal eye 37 thereof may be arranged either in operative relation with the clutch-arm, as shown in Fig. 1, (in which case a terminal stud 38 of said clutch-arm engages the eye 37,) or in an inoperative position, as illustrated in Fig. 2.

When the apparatus is to be used as a churn, as shown in Fig. 2, the inner receptacle 19 should be removed and the lower end of the dasher-stem seated in the socket 17; but in this case it is desirable to turn the dasher in the opposite direction to the receptacle 16, and therefore the clutch 33 is readjusted to disengage it from the fixed stop 35 and engage it with an eye 39, carried by the collar 22. Obviously rotary motion will be communicated from the hollow shaft to the dasher-spindle through the clutch-arm 33, and therefore said collar-shaft and dasher-spindle will rotate in a common direction. Thus it will be seen that when the apparatus is adapted for use as an ice-cream freezer the dasher is held stationary, while the inner or cream receptacle and the outer or ice receptacle are rotated in opposite directions, this relatively opposite movement of the cream and ice receptacle having the effect of hastening the freezing operation, and in order to prevent the contents of the outer receptacle 16 from receiving rotary motion from the inner receptacle or from the dasher (when the device is used as a churn) I have adopted a polygonal form of outer receptacle, the same being preferably cross-sectionally octagonal. This construction causes the ice to move with the outer receptacle, and thus doubles the motion of the ice in traversing the surface of the inner receptacle, while when the apparatus is used as a churn the broken walls of the receptacle 16 aid in agitating the contents of such receptacle.

From the above description it will be seen

that the rearrangement of parts necessary to convert the apparatus from a churn to a freezer, or vice versa, involves only the removal or introduction of the inner receptacle (with the suitable adjustment of the sliding sleeve 28) and the engagement of the clutch-arm with either the stationary or the movable eye in order that the dasher may be held from rotation or may receive rotary motion from the tubular shaft.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a convertible apparatus of the class described, the combination with a supporting-frame, of a revoluble, receptacle-supporting frame, a shaft concentric with said frame, operating devices for communicating rotary motion in opposite directions to said revoluble frame and shaft, a dasher-stem concentric with the revoluble frame and shaft, and clutch mechanism for connecting the dasher-stem to said shaft or a fixed object, substantially as specified.

2. In a convertible apparatus of the class described, the combination with a supporting-frame, of a revoluble, receptacle-supporting frame, a shaft concentric with said frame, operating devices for communicating rotary motion in opposite directions to said revoluble frame and shaft, a dasher-stem concentric with the revoluble frame and shaft, and clutch mechanism, including stationary and movable eyes on said supporting-frame and shaft, and a clutch-arm for connecting the dasher-stem with one of said eyes, substantially as specified.

3. In a convertible apparatus of the class described, the combination with a supporting-frame, of a revoluble receptacle-supporting frame, a shaft concentric with said revoluble frame, operating devices for communicating rotary motion in opposite directions to said revoluble frame and shaft, a dasher-stem concentric with the revoluble frame and shaft, and clutch mechanism, including a stop pivotally mounted upon the supporting-frame and having a stationary eye, a movable eye carried by the said shaft, and a clutch-arm connected with the dasher-stem for engagement with one of said eyes, substantially as specified.

4. In a convertible apparatus of the class described, the combination with a supporting-frame, of a revoluble, receptacle-supporting frame, a tubular shaft concentric with said frame, an inner receptacle concentric with an outer receptacle supported by said revoluble frame, a clutch connection between said shaft and the inner receptacle whereby motion may be communicated from the former to the latter, means for communicating rotary motion in opposite directions to said

revoluble frame and shaft, a dasher-stem concentric with said shaft, and clutch mechanism connected with the dasher-stem for engagement with a fixed stop or the shaft, substantially as specified.

5 In a convertible apparatus of the class described, the combination with a supporting-frame, of a revoluble, receptacle-supporting frame, a tubular shaft concentric with
10 said frame, an inner receptacle concentric with an outer receptacle supported by said revoluble frame, a clutch connection between said shaft and the inner receptacle the same
15 consisting of a sliding sleeve mounted upon said shaft, a collar on the lid of the inner receptacle having an interlocking engagement

with said sleeve, and a set-screw for securing said sleeve at the desired axial adjustment, means for communicating rotary motion in opposite directions to said revoluble frame
20 and shaft, a dasher-stem concentric with said shaft, and clutch mechanism connected with the dasher-stem for engagement with a fixed stop or the shaft, substantially as specified.

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

JOSEPH EVERHARD.

Witnesses:

I. D. CHILDRESS,
I. H. HAUFF.