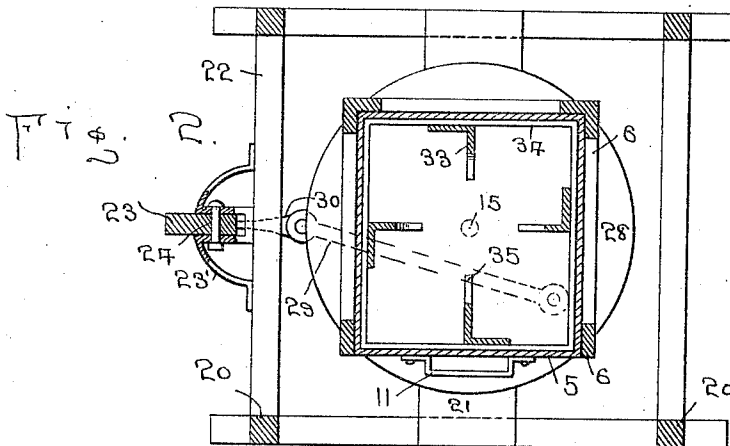
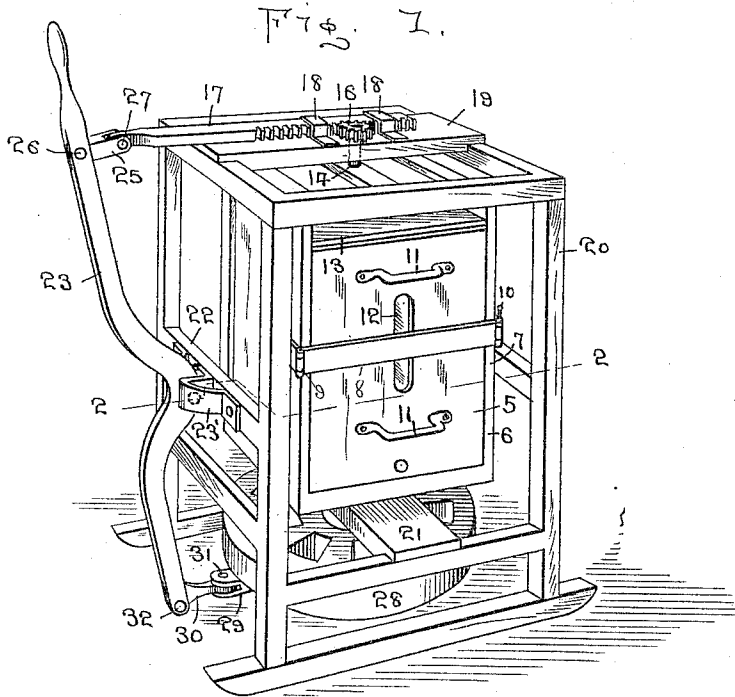


W. J. BROWN.
CHURN.

APPLICATION FILED JULY 2, 1912.

1,051,375.

Patented Jan. 21, 1913.



W. J. Brown. Inventor

Witnesses
Thos. C. Riley
M. Newcomb

By W. P. Fitzgerald & Co. Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM J. BROWN, OF BONANZA, OREGON.

CHURN.

1,051,375.

Specification of Letters Patent.

Patented Jan. 21, 1913.

Application filed July 2, 1912. Serial No. 707,201.

To all whom it may concern:

Be it known that I, WILLIAM J. BROWN, a citizen of the United States, residing at Bonanza, in the county of Klamath and State of Oregon, have invented certain new and useful Improvements in Churns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to churns, and it more particularly relates to an improved horizontally oscillating churn.

An object of the invention is to provide an improved churn in which a relatively large quantity of cream may be churned by the application of a comparatively small degree of power.

Another object of the invention is to provide a churn having an improved actuating mechanism which comprises a hand lever, the handle of which is in convenient position for an ordinary grown person, who may manipulate while standing.

Another object of the invention is to provide a churn-actuating mechanism including a handle which is movable in a substantially horizontal direction.

Other objects and advantages may be recited hereinafter and in the claims.

In the accompanying drawings which form a part of this application, Figure 1 is a perspective view of my complete churn, and, Fig. 2 is a horizontal sectional view taken on the line 2—2 of Fig. 1.

Referring to the drawings in which similar reference characters designate corresponding parts throughout the several views, a cream tank or container 5, preferably of rectangular or cubical form, is fitted within a rotary frame or crate 6. This crate 6 is provided with an open side 7 through which the container may be inserted and removed, a gate 8 being hinged at 9 and provided with fastening means 10; so that, when the gate is closed, the container cannot be removed or displaced from the crate. The container is provided with handles 11, by means of which the container may be withdrawn from the crate, when the gate 8 is open. The container is also provided with a window 12, through which the cream and butter may be inspected. A cover 13 is fitted on the container in any proper manner.

A vertical stub shaft or spindle 14 is se-

cured to the top of the crate 6, while a journal 15 is secured on the lower surface thereof, directly under the vertical axis of the shaft 14. Any suitable bearing (not shown) may be provided for the journal 15. To the upper end of the shaft 14 is secured a spur gear wheel 16, and a toothed rack 17 is slidably seated in guides 18 and having its teeth in mesh with those of the gear wheel 16. These guides 18 are secured upon the top of the beam 19, through which the shaft 14 extends and in which it is journaled; the beam 19 constituting the topmost element of a supporting frame or main frame 20, which includes a horizontal beam 21, on which the crate 6 is rotatably mounted. The frame 20 also includes a strut 22 on which a bracket 23' is secured, and to this bracket is pivoted a lever 23, the pivotal connection being indicated at 24. To the hand lever 23 is pivoted a link 25, and to this link is pivoted the rack 17, the pivotal connections of the link 25 being indicated at 26 and 27. A fly wheel 28 is rotatably mounted near the bottom of the main frame, and a pitman rod 29 is pivotally connected with the lower end of the lever 23, through the medium of a link 30, the pivotal connections of the link being indicated at 31 and 32 respectively.

Any suitable form of dasher members 33 may be employed, but I have chosen to show a form of dasher members which are secured to rectangular frames 34, and thereby spaced apart from the walls of the container. The dasher members 33 may be notched as indicated at 35. In practice, I employ two or more of the frames 34, although only one of said frames appears in the drawings, the others having been omitted from the sectional view. The frames 34 and dasher members 33 constitute a crate-like dasher of rectangular outline, which is removably fitted into the container, so that it may be easily and thoroughly cleaned, after using.

In operation, cream or milk having been introduced into the container, the cover is applied, the container is then placed in the crate 6, the gate 8 is closed and secured, and the churn is then ready for operation; whereupon, the lever 23 is oscillated, thereby reciprocating the rack 17 and causing the gear wheel, the crate 6 and the container 5 to be oscillated. During this operation, the fly-wheel 28 is rotated, through the medium of the link 30 and the pitman

29, for the purpose of easily reversing the oscillatory movements of the container and crate.

- It will be seen that, the operating handle 5 of the lever 23 is raised to such an extent that an operator may easily manipulate the same while standing or while sitting on an elevated seat, thereby avoiding the cramped posture, which is so objectionable and tiresome, in the manipulation of many of the 10 churns in present use. Moreover, the stroke of the operating handle being in a horizontal direction, is much less tiresome to the operator than in usual constructions, where- 15 in the working stroke is essentially in a vertical direction or in a circular direction. Because of the horizontal movement of the container, the necessity for repeatedly raising the cream and butter, in the operation 20 of churning, is avoided; therefore, a much greater quantity of cream can be churned than by churns which repeatedly raise and lower the cream; the proportion of power applied being equal.
- 25 It will be seen that I have provided a churn of this character which is fully capable of attaining the foregoing objects and in a thoroughly practical and efficient manner.
- 30 I do not limit my invention to the exact details of construction, combination and arrangement of parts described and illustrated herewith, but my invention may only be limited by a reasonable interpretation of 35 the claims.

I claim:

1. In a churn, a main frame, a cream container rotatably mounted in the main frame, an operating lever pivotally secured to the main frame, and adapted to be oscillated in a vertical plane, means operatively 40 connecting the operating lever with the container for oscillating the latter, a horizontally rotatable fly wheel mounted under the container independently of the latter, and 45 a pitman rod directly connected with the horizontally rotatable fly wheel and associated with the lower end of the operating lever and thereby adapted to rotate said wheel continuously in one direction while 50 oscillating the container.

2. In a churn, a main frame including a horizontal supporting beam, a fly wheel supported under the beam, a container pivotally supported on the beam, a substantially vertical 55 actuating lever pivoted to the main frame and operatively connected with the fly wheel, and means operatively connecting the upper portion of the lever with the 60 upper portion of the container for oscillating the latter while rotating the fly wheel continuously in one direction.

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

WILLIAM J. BROWN.

Witnesses:

E. S. HAMAKER,
HATTIE E. HAMAKER.