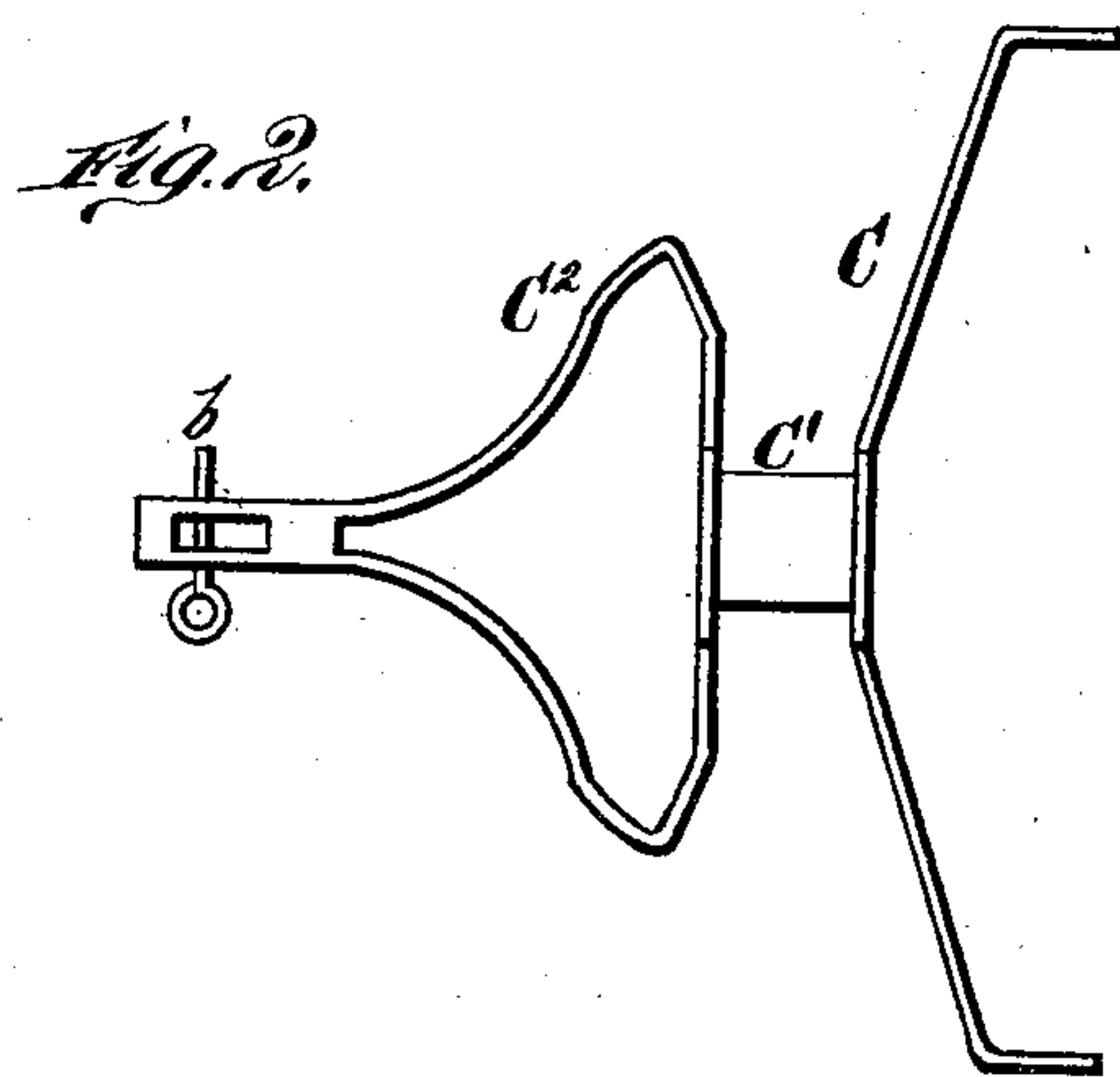
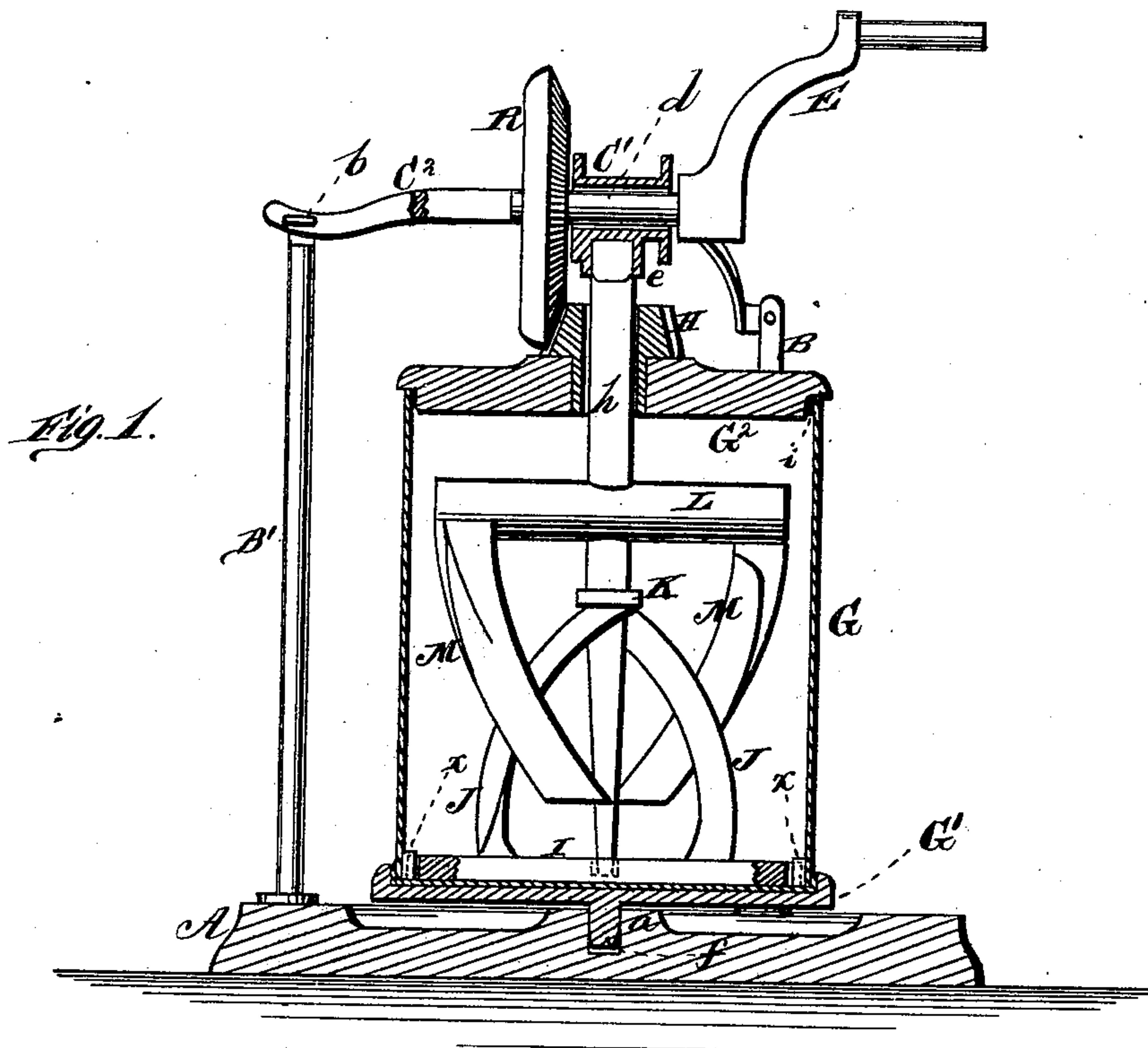


B. B. HESS.  
Revolving-Churn.

No. 200,531.

Patented Feb. 19, 1878.



WITNESSES

*Robert Everett*  
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# UNITED STATES PATENT OFFICE.

BENJAMIN B. HESS, OF BURLINGTON, IOWA.

## IMPROVEMENT IN REVOLVING CHURNS.

Specification forming part of Letters Patent No. **200,531**, dated February 19, 1878; application filed December 22, 1877.

*To all whom it may concern:*

Be it known that I, BENJAMIN B. HESS, of Burlington, in the county of Des Moines and State of Iowa, have invented a new and valuable Improvement in Churns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical section of my churn, and Fig. 2 is a plan view of the cross-bar.

My invention relates to that class of churns in which the churn proper is rotated by suitable mechanism; and it consists in the particular construction of the rotating and stationary dashers within the churn; and also in the construction and arrangement of the framework supporting the mechanism for operating the churn, all as hereinafter more fully set forth.

The annexed drawings, to which reference is made, fully illustrate my invention.

A represents a base for the churn, made preferably in circular form, and formed or provided with a central step or socket, *a*. From the base rise three vertical posts or standards, B B and B', equidistant from the center and from each other. The upper ends of the posts B B are forked, as shown, and in the same are pivoted the bent ends of a curved and arched cross-bar, C, which is formed or provided in the center with a tube or socket, C<sup>1</sup>, and a frame, C<sup>2</sup>, projecting from the same. This frame terminates in a mortised arm, which, when the frame is thrown down in a horizontal position, fits over the upper end of the post B', and is fastened thereto by a pin, *b*. Through the tube C<sup>1</sup> is passed a short shaft, *d*, upon one end of which is secured a crank, E, and on the other end, within the frame C<sup>2</sup>, is secured a beveled-gear wheel, R, as shown. On the under side of the tube C<sup>1</sup> is formed a square socket, *e*.

G represents the cylindrical churn secured upon a circular disk, G<sup>1</sup>, having a central pivot, *f*, projecting from its under side, and this pivot rests in the step or socket *a* of the base A. The churn G is provided with a tight-

fitting lid, G<sup>2</sup>, having a rubber gasket or packing, *i*, at the joint, to make it perfectly tight, and prevent the cream from leaking out, as well as to produce sufficient friction to cause the churn to revolve with the lid when power is applied to the latter. On the center of the lid G<sup>2</sup> is secured a beveled pinion, H, the hub of which is elongated, and extends through the lid to form a bearing for a central shaft, *h*, passing vertically through the same.

In the bottom of the churn are two projections, *x x*, over which fit the notched ends of a cross-bar, I, resting across the center of the bottom of the churn. To this bar are secured two twisted dashers, J J, which are concavo-convex in form, and have their upper ends connected by a cross-bar, K, standing at right angles with the bottom cross-bar I.

The central shaft *h* passes through a hole in the center of the cross-bar K, and its lower end rests in a step formed in the center of the bottom cross-bar I. Upon this shaft *h*, above the cross-bar K, is secured a horizontal arm, L, from the ends of which project two concavo-convex dashers, M M, which are also curved or twisted in the opposite direction to the dashers J and outside thereof. The upper end of the shaft *h* is made square to fit in the socket *e* upon the tube C<sup>1</sup>, the bevel-pinion H then meshing with the bevel-gear wheel R.

By turning the crank E the churn is easily revolved, the dashers J J revolving therewith, while the dashers M are held stationary. The stationary dashers or arms M obstruct the circular movement of the cream, which naturally runs to the sides of the churn in its circular motion, and by their concave shape they throw the cream to the center and in contact with the revolving dasher, while their oblique position tends to keep the cream at the bottom of the churn.

By placing the churn below the crank and gear it is given a more firm and solid position, and is rendered less liable to upset.

By removing the pin *b* the gearing can be thrown up, and the churn taken out from the frame, and the dashers then removed.

What I claim as new, and desire to secure by Letters Patent, is—

1. The within-described device, adapted to support the operating mechanism above the



churn, comprehending the cross-bar C, tube C<sup>1</sup>, and frame C<sup>2</sup>, as set forth.

2. An improved dasher device for revolving churns, consisting of a shaft, *h*, a cross-bar, I, dasher-rods J J, having their upper ends connected to a cross-bar, K, and horizontal bar L, with pendent dasher-rods M M, the said dasher-rods J and M being twisted spirally in opposite directions, and adapted one to be ro-

tated and the other held stationary, substantially as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

BENJAMIN B. HESS.

Attest:

M. H. WOODS,  
HENRY G. HESS.