M. PAYNE.

ROTARY CHURN.

No. 169,835. Patented Nov. 9, 1875.

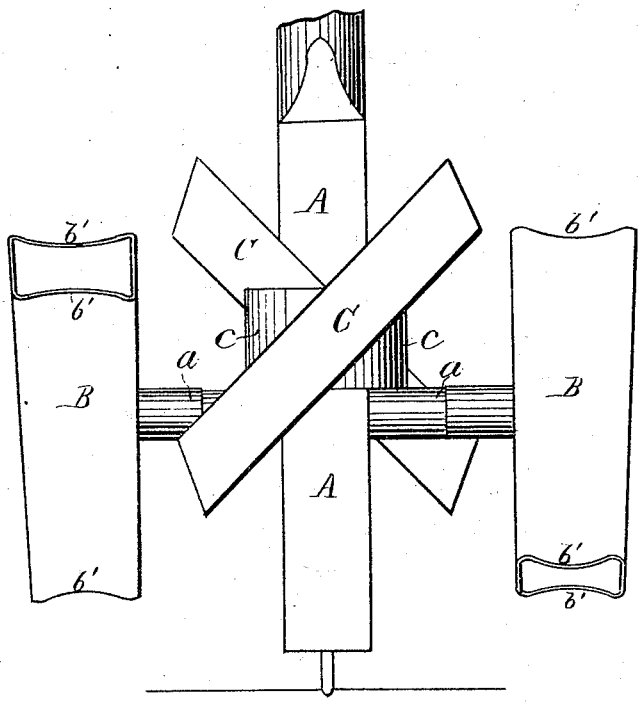

Fig. 1.

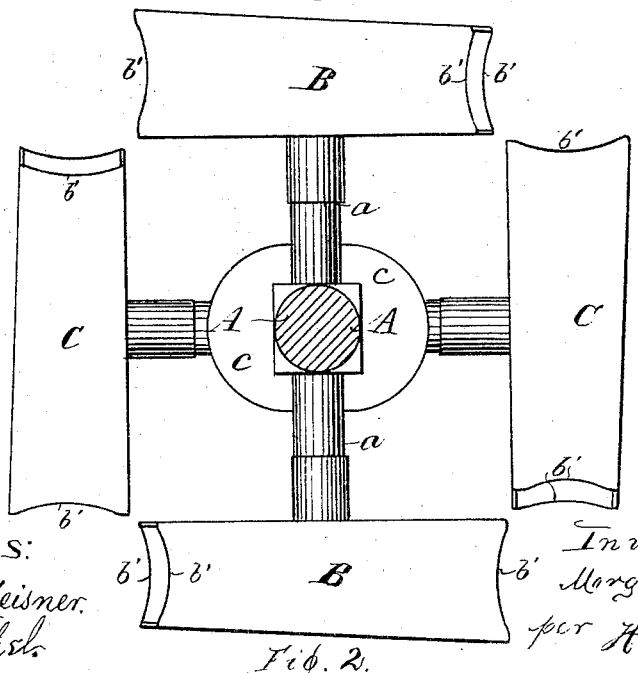

Fig. 2.

Witnesses:
Chas. D. Meisner.
J. W. Kerthel.

Inventor:
Morgan Payne
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attys

UNITED STATES PATENT OFFICE.

MORGAN PAYNE, OF CARDINGTON, OHIO, ASSIGNOR TO HIMSELF AND THOMAS S. DAVIS, OF COLLINSVILLE, ILLINOIS.

IMPROVEMENT IN ROTARY CHURNS.

Specification forming part of Letters Patent No. **169,835**, dated November 9, 1875; application filed September 6, 1875.

To all whom it may concern:

Be it known that I, MORGAN PAYNE, of Cardington, in the county of Morrow and State of Ohio, have invented an Improved Churn-Dasher, of which the following is a specification:

This invention relates to an improved construction and combination of the lower and top dashers, to operate with relation to each other, in the manner now more fully to appear.

Of the drawing, Figure 1 is a side elevation. Fig. 2 is a top plan.

A is the dasher-shaft, the lower end of which properly turns in a step in the bottom of a churn, the top end of said shaft being connected to gearing imparting a rotary motion, in manner usual. Secured to the shaft A, on the arms *a*, are the lower dashers B B. These I form of the improved construction as follows: The dashers B B are inflexible tubes, made of tin or other suitable material; the function of the tubes being to operate in the cream, so as to separate the same by forcing it through said tubes, which produces a division of the currents into streams—a great advantage in the quick formation of butter. The tubes B also I form to be tapering from the top to the bottom length thereof, so that the lower end is smaller than the upper end, (see figures;) this tapering feature being to create a suction in the tubes, and to assist in compressing the cream when entering the tubes, as well as producing an expansion of cream as it leaves the tubes. Further, I form the tubes B B to have the opposite (top and bottom) surfaces fluted. (See *b'* in figures.) This feature aids the tubes in confining the cream, and in collecting the fragments of butter; also, in catching and forcing air into the cream. The lower dashers B B, thus constructed, I arrange on the arms *a* of the shaft A, so as to operate at an angle of forty-five degrees—a position the better to revolutionize the cream more effectually, the agitation being produced more equally below, in the middle, and above. The upper dashers C C are similarly constructed to those of B B above described, and have therefore the same operative function. Said dashers C C are also secured at the same angle to the arms *c* of a sliding collar, which loosely operates on the shaft A, as indicated. It is this upper dasher that gathers the butter when the motion is reversed, the particles of butter sliding up along the incline fluted surfaces of the tubes.

My improved churn-dasher is applicable to the ordinary churns, as made, and in its construction is simple, and operation most effective.

What I claim is—

The shaft A, carrying the lower dashers, consisting of tubes B B, having fluted surfaces *b*, and, further, made tapering from top to bottom, in combination with the upper dashers C C, similarly constructed to those of B B aforesaid, said parts being arranged to operate with relation to each other in the manner and for the purpose set forth.

In testimony of said invention I have hereunto set my hand in presence of witnesses.

MORGAN PAYNE.

Witnesses:

T. E. DUNCAN,

THEODORIC S. WHITE.