J. SCHWEICKHARD.
Rotary-Churn.

No. 206,045. Patented July 16, 1878.

Fig: 1.

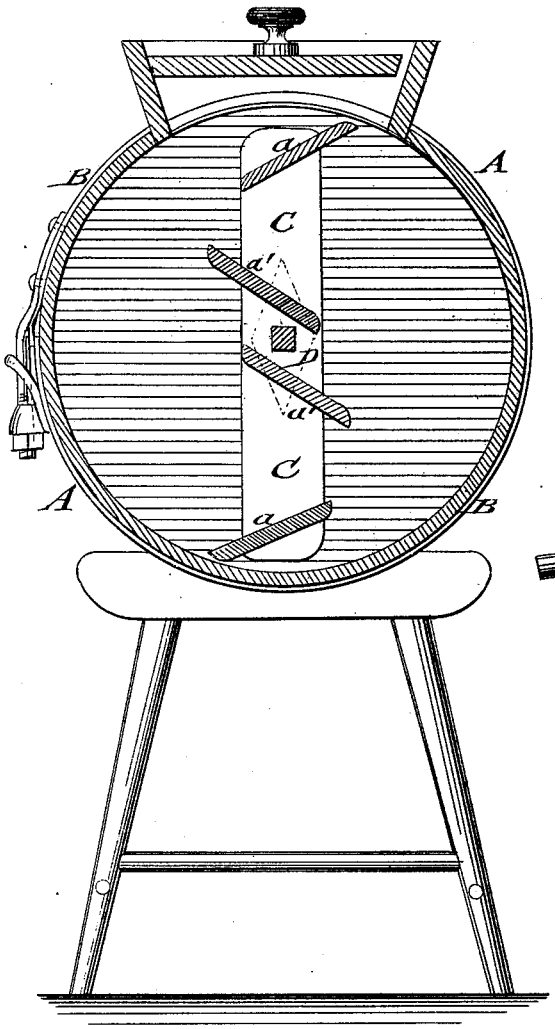


Fig: 2.

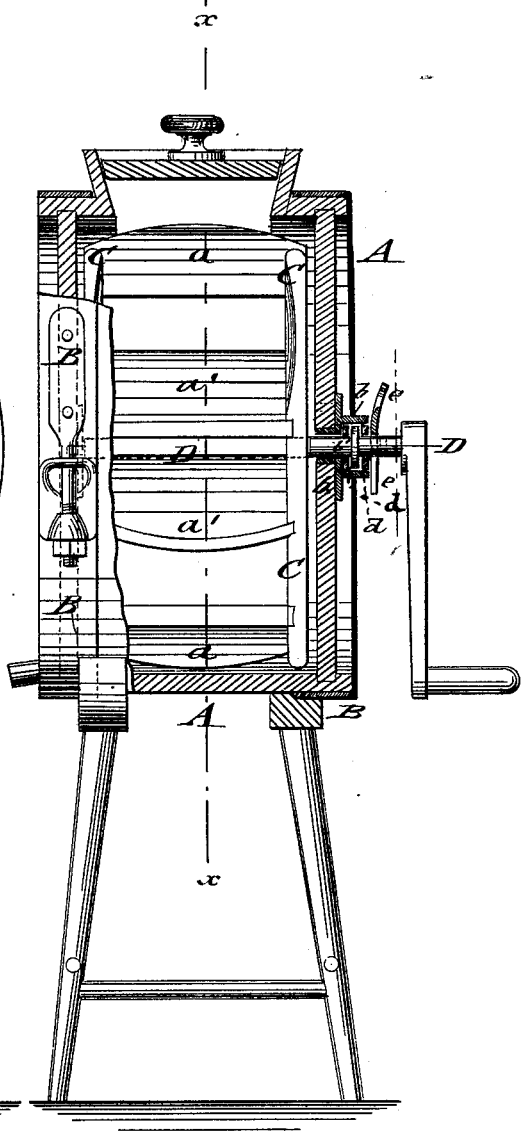
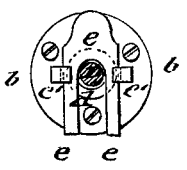


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JACOB SCHWEICKHARD, OF KEKOSKEE, WISCONSIN.

IMPROVEMENT IN ROTARY CHURNS.

Specification forming part of Letters Patent No. **206,045**, dated July 16, 1878; application filed December 8, 1877.

To all whom it may concern:

Be it known that I, JACOB SCHWEICKHARD, of Kekoskee, in the county of Dodge and State of Wisconsin, have invented a new and Improved Churn, of which the following is a specification:

In the accompanying drawings, Figure 1 represents a vertical longitudinal section on line *x x*, Fig. 2, of my improved churn; Fig. 2, an end elevation of the same, partly in vertical transverse section; and Fig. 3, a detail view, showing connection of churn-head with revolving shaft.

Similar letters of reference indicate corresponding parts.

This invention has reference to an improved churn that represents and combines the advantages of the common plunger and revolving paddle-churn, so as to make the butter with the same efficacy as the former, and with the same rapidity as by the latter churn.

The invention will first be described in connection with the drawing, and then pointed out in the claims.

Referring to the drawing, A represents the cylindrical body of my improved churn, which is supported on a suitable frame or stand, and provided with a hopper-shaped top and cover. The cover is made slightly shorter than the hopper-shaped top part to admit air to the interior of the churn without any chance of spilling cream.

The cylindrical body A is bound up by iron bands or hoops B, that are tightly drawn by screw ends, sockets, and bolts.

At the interior of the churn is arranged a diametrical frame, C, that is rigidly fitted by square holes to the square interior part of a center-shaft, D, revolved by a crank-handle. The frame C is provided at the outer ends with fixed inclined paddles *a*, and also near the shaft D with a second set of inclined paddles, *a'*, that are secured so as to converge toward the outer paddles, forming a hopper-shaped space with the same.

The outer paddles are extended beyond the frame C toward the inner circumference of the churn-body, so as to pass in revolving close to the same, while the inner paddles are made to project beyond the opposite edges of the frame. The outer paddles take up the cream, raise it, and force it by its own weight through between the outer and inner paddles, so as to drop it in imitation of the falling of the cream in the reciprocating churn.

The inclined paddles *a a'* have the further advantage that they do not cut the cream, which is deemed objectionable in butter-making. A sufficient quantity of air may enter freely through the opening at the end of the cover. By turning the frame in opposite direction the backward motion of the paddles admits the gathering and working of the butter and the pressing out of the buttermilk, and then forming it in a roll by turning the shaft in the forward direction again.

The shaft D turns in an inner socket-bearing of one head of the body and in a bearing of a box, *b*, of the opposite head, being retained in position by means of a collar, *b'*, of the shaft, leather washers *d*, and a forked wedge-piece, *e*, that is driven down on the washers along side guide-hooks *e'* of the box. By detaching the wedge-piece the shaft may be removed, the paddle-frame taken out, and the churn-body and paddle cleaned in easy and thorough manner.

The churn combines the drop-motion of the reciprocating churn with the quick and effective breaking of the paddle-churn, and produces superior butter that is taken out at the top, while the buttermilk is drawn off through a plug-hole at the bottom.

I am aware that it is not new to use a rotary dasher composed of a frame having inclined converging outer and inner paddles; but when extended beyond the opposite sides of the frame the churning action is more vigorous, and the edge of the outer paddle is brought more closely to the side of the churn.

What I claim as new is—

1. In a churn provided with two sets of paddles, *a a* and *a' a'*, arranged at a reversed incline on the diametrical bar C, the outer and inner paddles extended beyond the opposite sides of the frame, for the purpose set forth.

2. The combination, with the shaft D, having collar *b'*, of the box *b*, having guide-hooks *e'*, washers *d*, and forked wedge *e*, as and for the purpose specified.

JACOB SCHWEICKHARD.

Witnesses:

GEO. ENGEL,

GEORGE BENNETT.