(No Model.)

W. W. KITCHEN.

CchurN.

No. 282,199. Patented July 31, 1883.

Fig. 1.

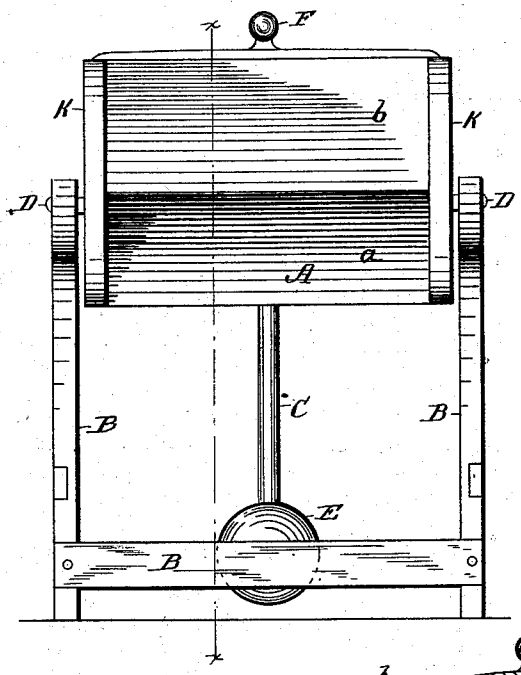


Fig. 2.

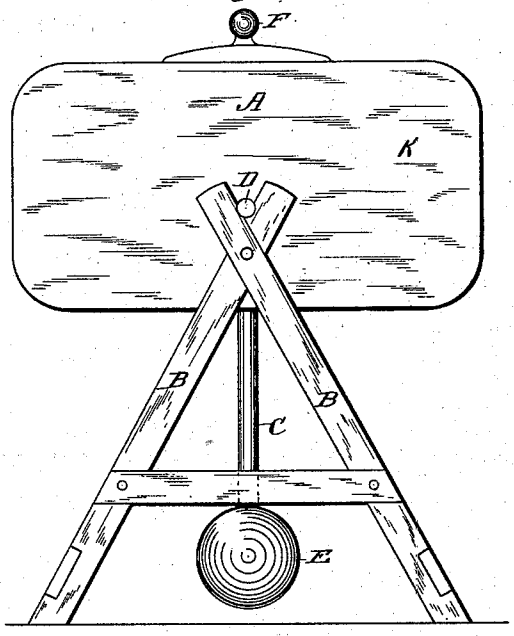
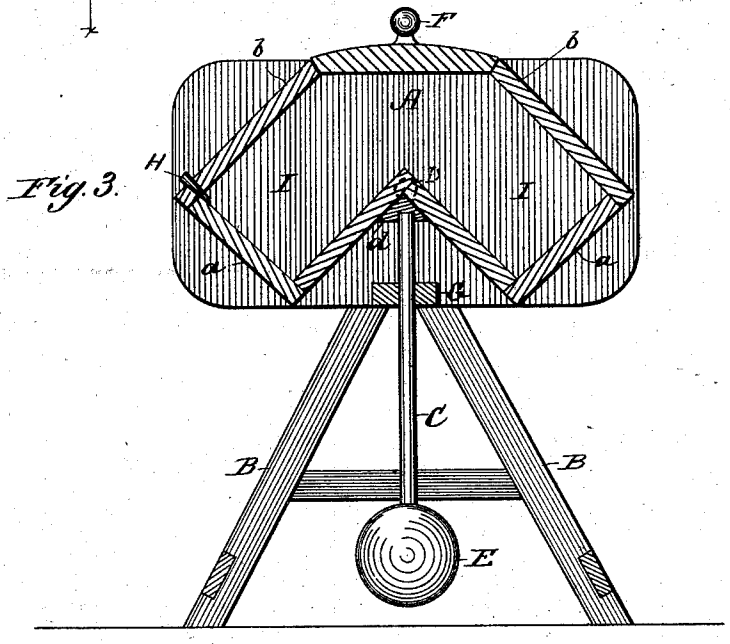


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM W. KITCHEN, OF WEST UNION, IOWA.

CHURN.

SPECIFICATION forming part of Letters Patent No. 282,199, dated July 31, 1883.

Application filed September 29, 1882. (No model.) Patented in Canada August 23, 1882, No. 15,360.

To all whom it may concern:

Be it known that I, WILLIAM W. KITCHEN, of West Union, in the county of Fayette and State of Iowa, have invented a new and useful Improvement in Churns; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improvement in that form of churns which have no dasher, but in which the butter globules are released by the impact of the cream in being dashed from one side to the other of the receptacle by an oscillatory movement of the latter.

My invention consists in the peculiar form of the cream-receptacle, and in the peculiar combination, with the same, of a pendulum for securing uniformity in the oscillation of the churn, as will be hereinafter fully described.

Figure 1 is an end elevation; Fig. 2, a side elevation, and Fig. 3 a vertical section through the line *x x* of Fig. 1.

A represents the cream-receptacle or body of the churn, which is composed of two rectangular boxes of exactly equal size, joined together at right angles at one edge, forming two pockets or receptacles, I I, divided by a double-inclined central ridge. The walls *a a* of the receptacle, which form the bottoms of each box, are inclined to the vertical when the churn is in the normal position of rest, and these walls, when the churn is in action, are each exactly at right angles to the line of discharge from the other pocket, so that the cream, in being dashed against said wall at right angles, secures the best effect of impact for bursting or liberating the butter globules. The walls *b b* of the receptacle, or outer walls of the two boxes, it will be seen, are also inclined to the vertical when the churn is in the normal position of rest, and when the cream is in the act of being poured from one side to the other these walls stand about vertical, and prevent the cream from splashing out. Between the outer edges of the two boxes and the end walls, K, of the cream-receptacle is fitted the cover F, through which the cream is introduced. The cream-receptacle as thus described is supported by trunnions D D upon a suitable frame, B, upon which it is free to oscillate. These trunnions constitute the bearings upon which the case oscillates, and said trunnions are exactly on a line with the apex of the middle double-inclined ridge in the bottom of the case, so that the cream in being dashed from one pocket to the other is discharged over the center of oscillation, and thereby is made to have a stronger vertical fall and better impact against the bottom *a* of the other pocket. This relation of the two boxes to each other and the apex of the ridge to the center of oscillation also makes the churn dash its contents quickly from one side to the other without the expenditure of so much power in raising it as is required in other forms of case acting upon this general principle.

C is a pendulum having weighted end E, which pendulum is detachably fastened to the bottom of the churn-receptacle by being fastened in a cross-bar, G, by means of a pin, while its upper end is seated in a recessed block, *d*, at the apex of the triangle under the double-inclined bottom.

In operating my churn as thus described the body portion is oscillated by hand or otherwise, which causes the cream in one pocket or receptacle I to be poured or dashed with some violence against the wall *a* of the other pocket, and then upon the next movement is dashed upon the wall *a* of the first-named pocket, and so the action is continued as the churn oscillates until the churning is finished, which is effected in a very short time. The pendulum in this action gives uniformity to the oscillation, and, in acting as a counter-balance when one receptacle I is full, assists the operator in transferring the contents to the other receptacle. When the butter is churned, the receptacle is tilted on its trunnions and the buttermilk drains from a stoppered vent, H, and the butter then removed through the cover F.

In defining my invention with great clearness I would state that I am aware it is not new to construct a churn with an oscillating cream-receptacle having a double-inclined ridge in the middle, forming two compartments, from one to the other of which the cream is dashed as the churn is oscillated, and I do not claim this, broadly. My invention is, however, distinctive in the form of the cream-chamber as constructed of two rectangular boxes joined

at right angles to each other, which causes the walls *a a* to receive the impact of the cream at right angles, while the walls *b* prevent the cream from splashing out. It is also distinctive in making the apex of the double-inclined ridge in the bottom of the case coincident with the center of oscillation, as hereinbefore described.

The pendulum, I am aware, is not broadly new in its application to oscillating washing-machines and to like uses, and I only claim with respect to this feature its peculiar mode of attachment to my peculiar construction of case, in which the socket-block *d* serves not only to hold the end of the detachable pendulum, but also braces and strengthens the connection of the two boxes at right angles to form the case.

Having thus described my invention, what I claim as new is—

1. The combination, with a supporting-frame having bearings, of an oscillating cream-receptacle formed of two rectangular boxes, I I, joined at right angles to each other, and forming a central double-inclined ridge, with its apex in the center of oscillation, and having end walls, *a* and *b*, substantially as described.

2. The combination, with the two rectangular boxes I I, joined at right angles and forming a central double-inclined ridge, of the block *d*, forming a brace at the angle of the two boxes, and provided with a socket for the pendulum, the pendulum C E, and the cross-bar G, substantially as and for the purpose described.

The above specification of my invention signed by me in the presence of two subscribing witnesses.

WILLIAM WHITNEY KITCHEN.

Witnesses:
SOLON C. KEMON,
EDWD. W. BYRN.