S. NEIS.

Churn.

No. 198,145. Patented Dec. 11, 1877.

Fig: 1.

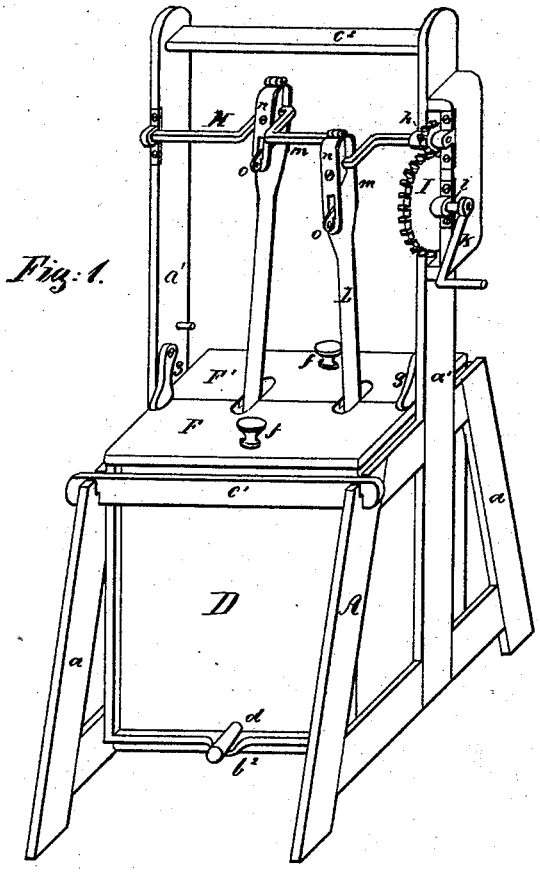


Fig: 3.

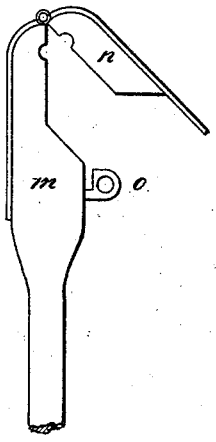


Fig: 4.

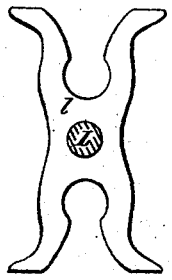
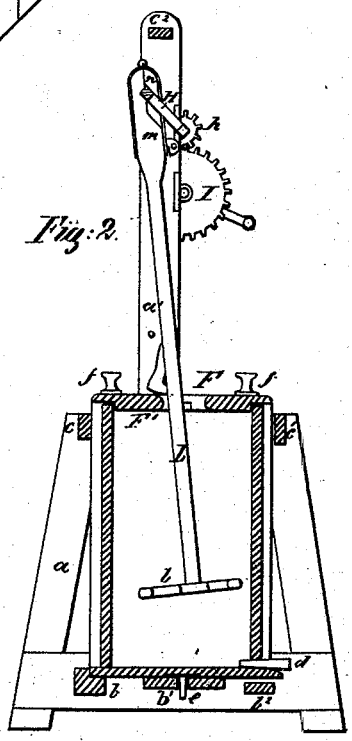


Fig: 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

SEBASTIAN NEIS, OF SUBLETTE, ILLINOIS.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **198,145**, dated December 11, 1877; application filed August 24, 1877.

To all whom it may concern:

Be it known that I, SEBASTIAN NEIS, of Sublette, in the county of Lee and State of Illinois, have invented certain Improvements in Churns, as fully described in the following specification.

The nature of my invention relates to improvements in that class of churns which are arranged with reciprocating plungers; and it has for its object to so construct a two-plunger churn that a thorough agitating of the milk or cream is accomplished with but little exertion or power, and that it can be easily taken apart for emptying and cleaning.

The invention consists in the construction and arrangement of the various parts, and in the combination of the same, as pointed out in the claims.

Figure 1 is an exterior perspective view of the churn. Fig. 2 is a vertical cross-section of the same. Fig. 3 is an elevation of one of the plunger-rod stub-ends, and Fig. 4 is a plan of one of the dashers.

In the drawing, A is the frame, consisting of two upwardly-tapering side frames, *a*, each having a vertical standard, *a'*, of the bottom cross-bars *b* b^1 b^2, of the upper cross-bars *c* c^1, and of the brace-bar c^2, which latter connects to the top ends of the standards *a'*. D is the churn-box, it being a plain square box, having vent *d* for drawing off the buttermilk, which is closed by a wooden stopper. This box is closely fitted between the two side frames *a*, resting upon the bottom cross-bars *b* b^1 b^2, the former of which has an upwardly-projecting shoulder for the end of the box to be placed against, while two studs, *e*, which project from under the bottom of said box, will enter corresponding holes in cross-bar b^1. The upper edges of the box are held endwise by the cross-bars *c* and c^1. The cross-bar c^1 is loosely joined in the side frames by having notches near its ends, which will lock with similar notches in the side frame, so that it can be lifted off for tilting or removing the churn-box from the frame.

F F' is a two-part cover, being fitted tight to the top of box D. Each half-cover has a knob-handle, *f*, and is slotted for the plunger-rods to pass through. This cover is locked upon the box by two turn-cams, *g*, pivoted to the inward sides of the frame-standards *a'*.

H is a shaft formed with two cranks, pointing to opposite directions, which is journaled in suitable boxes bolted to the edges of standards *a'*, and on one end it has a pinion, *h*. I is a gear-wheel secured upon a shaft, *i*, which is also pivoted to the edge of one of the standards, and has crank K, by which it is rotated, when it will impart motion to crank-shaft H at an increased velocity.

The plungers consist each of a rod, L, with an **X**-shaped dasher, *l*, to its bottom end. The upper end *m* of said rod is enlarged to form a journal-bearing or stub-end, by which it is coupled to the crank. The extreme end of this stub-end *m* is cut in two through the center line, so as to have a cap, *n*. Both the stub-end *m* and cap *n* have iron straps secured around their edges, which are pivoted to each other at their upper junction, thus forming a hinge, by which the cap *n* is coupled to the stub-end. The strap of cap *n* is elongated, the projecting portion being slotted to admit the turn-buckle *o*, by which it is locked and tightened over the crank.

For taking the churn apart, the covers F are removed, the plungers are uncoupled from the crank-shaft, and the cross-bar c^1 is lifted off, when the box D may be either tilted or entirely removed from the frame, to be emptied and thoroughly cleaned, after which the churn is readily put together again.

The advantages of this churn are its easy operation by the counterbalancing of the two dashers, which, by reciprocating in opposite directions, will agitate the milk or cream to a greater extent than where a single plunger only is employed; also, its simplicity of construction and arrangement for taking it apart, which is of great convenience, since cleanliness in a dairy is of the utmost importance.

I am aware that I am not the first to removably secure a churn-box in a frame upon which is mounted the plunger and multiplying-gear for operating the same; and I am also aware that I am not the first to construct a two-plunger churn the plungers of which are reciprocated by a crank-shaft; but my invention is confined to the peculiar construction of the

frame, including the means for holding the churn-box in position, and to the peculiar device for securing the plungers to the crank-shaft.

What I claim as my invention is—

1. In a churn, the frame A, composed of the side frames *a*, cross-bars *b c*, and removable bar c^1, adapted to receive the rectangular churn-box D, constructed and arranged substantially as and for the purposes set forth.

2. The combination of the stub-end *m*, hinged cap *n*, and turn-buckle *o*, for securing a churn-plunger to its crank-shaft, substantially as described and shown.

3. The combination, with the frame A and churn-box D, of the removable bar c^1 and the turn-cams *g*, for holding the churn-box in the frame, substantially as described and shown.

SEBASTIAN NEIS.

Witnesses:
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JOHN BLEY,
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