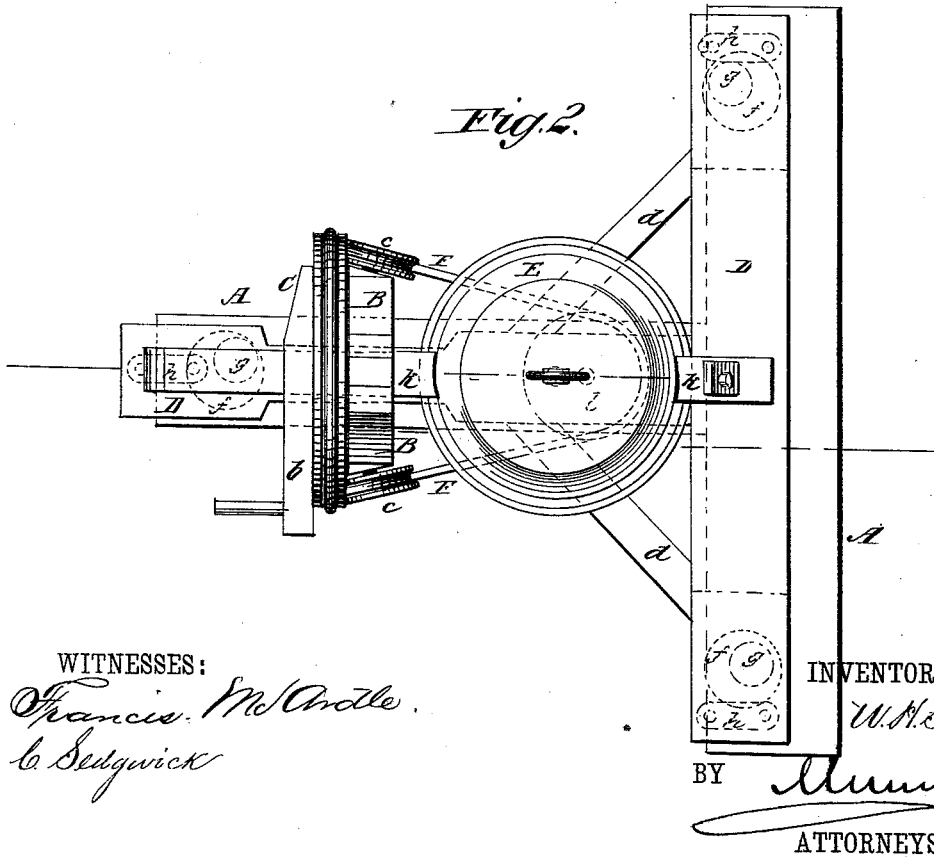
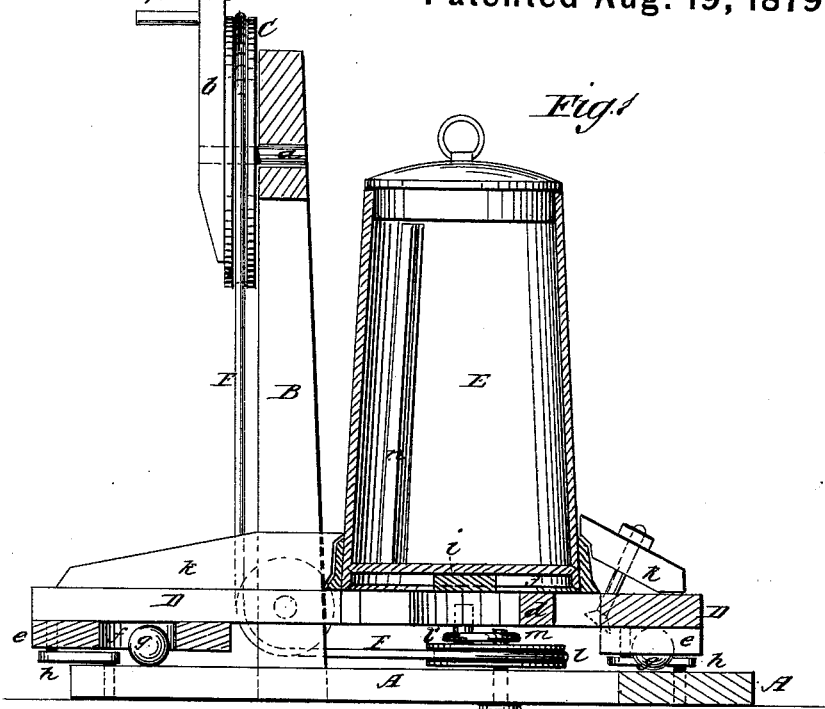


W. H. STERNS.
Churn.

No. 218,790.

Patented Aug. 19, 1879.



UNITED STATES PATENT OFFICE.

WILLIAM H. STERNS, OF HUMBOLDT, NEBRASKA.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **218,790**, dated August 19, 1879; application filed March 12, 1879.

To all whom it may concern:

Be it known that I, WILLIAM H. STERNS, of Humboldt, in the county of Richardson and State of Nebraska, have invented a new and Improved Churn, of which the following is a specification.

The object of this invention is to provide a simply-constructed and easily-operated churn, wherein the agitation of the cream is produced by the rapid movement of the apparatus in a horizontal plane, whereby the cream is thrown violently from side to side of the receptacle, a circular or rotary movement being prevented by cream-breakers in the sides of the receptacle.

The invention will be first described in connection with the accompanying drawings, and then particularly ascertained in the claims.

In the drawings, Figure 1 is a vertical section of my improvement, and Fig. 2 is a top plan of the same.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the base of the churn, composed of a T-frame, from the shank whereof standards B B rise at right angles to the length of the frame, but with the tops inclined toward each other, and at the top is fixed a pivot, *a*, carrying a grooved band-wheel, C, operated by a crank, *b*.

Near the level of the base, on the outside of each of the standards, is pivoted a grooved pulley, *c*, the axis of each being inclined toward the T-head of the base.

D is the movable frame, in the form of a T, of the same length as the base, and having braces *d d* extending from the head to the shank. On the under side of this frame, at each end, are fixed blocks *e*, with sockets *f*, and in these sockets are confined spherical rollers *g*, between the under side of the frame and the upper side of the base, while cranks *h* are pivoted at opposite ends to the frame D and base A, near each end of the two T's, and thus connect the frame and base together, the former, however, being allowed a horizontal rotary motion equal to double the length of the cranks that connect it with the base.

On top of the frame D is placed, cross-wise of the shank and parallel to the head, a bar, *i*.

E is the cream-receptacle, set upon the frame D. It has a flanged bottom, *j*, which sets over and receives the bar *i*, to which it is fastened, and is thus held to the frame.

Cleats *k k* have their ends placed against the outside of flange *j*, on opposite sides, and are secured to the frame by screws or bolts, as may be preferred. These, together with the cross-bar *i*, attach the receptacle to the frame.

On the upper side of frame A is pivoted a grooved pulley, *l*, to the axle *m* of which is eccentrically secured a ring, *l'*, which is pivoted to the under side of the frame D, by means of which the said frame is caused to rotate.

A band, F, runs over wheel C, down to pulleys *c*, thence horizontally to pulley *l*.

By turning band-wheel C motion is communicated to pulley *l*, and through its connection therewith the frame D is moved from the center of the pulley *l* on its bearings, describing a circle, and the receptacle E is carried with it.

A very rapid motion can thus be communicated to the receptacle, and the cream being placed therein is violently agitated, it being prevented from rotating with the churn by the breakers *n* on the inside of the receptacle. It is thus thrown violently from side to side, and by the concussion the globules are broken, and hence the action is much more uniform and effective than that produced by the usual reciprocating and rotary dashers.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As an improvement in churns, the base A, in combination with movable frame D, carrying the cream-receptacle E, connected with the frame by cranks *h* and resting upon spherical rollers *g*, whereby the said frame and cream-receptacle are enabled to move on the said base with a rotary motion to agitate the cream in the receptacle, substantially as described.

2. In combination with movable frame D,

carrying cream-receptacle E, and connected with the base in the manner described, the band-wheel C, pulleys *c c*, pulley *l*, and ring *l'*, eccentrically secured to the axle *m* of the pulley *l*, and pivoted to the under side of the frame D, with the frame D, whereby motion is communicated through belt F to the said

frame and cream-receptacle, substantially as described.

WILLIAM H. STERNS.

Witnesses:

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