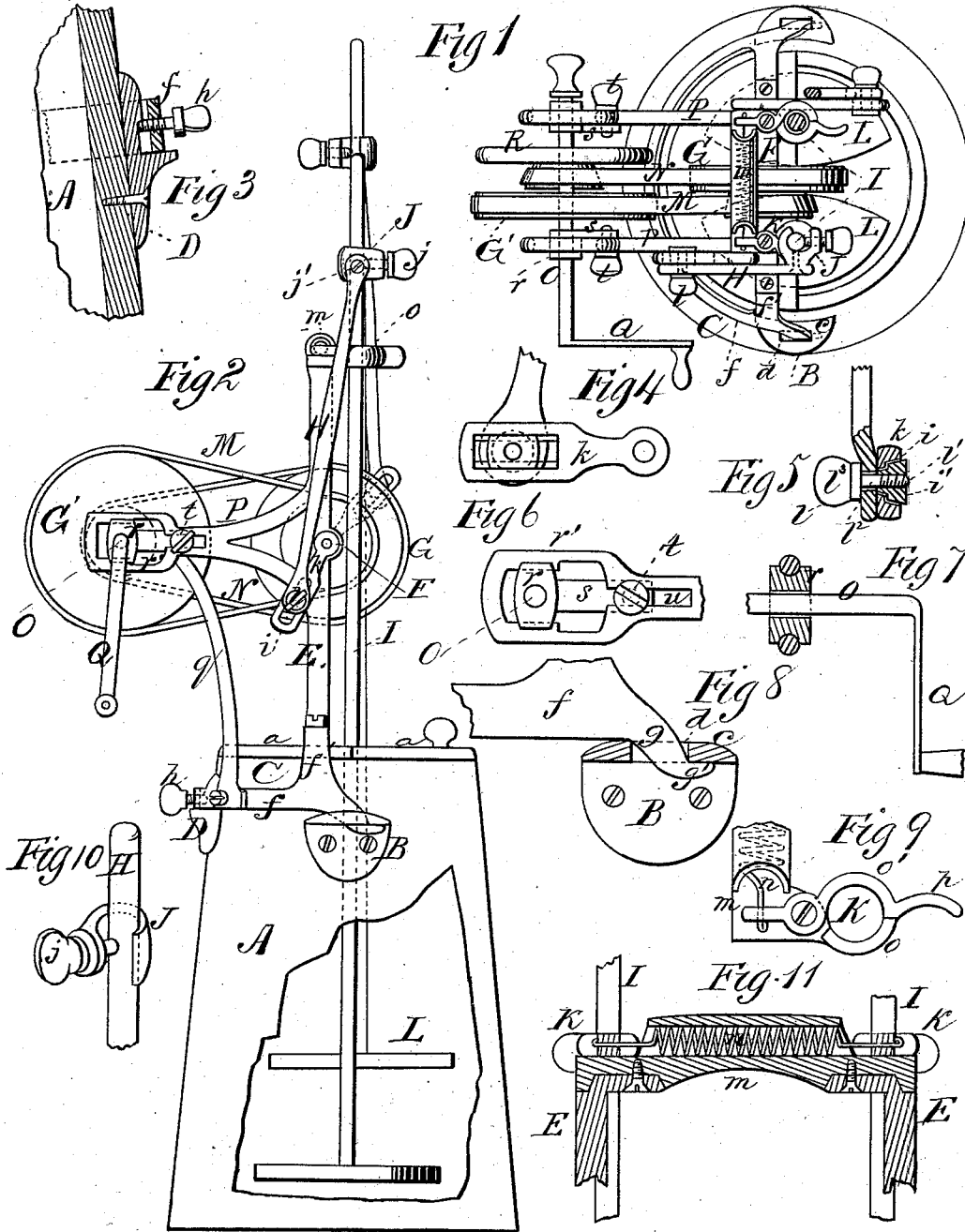


O. CHASE.
CHURN.

No. 187,812.

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WITNESSES
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OSCAR CHASE, OF RUTLAND, OHIO.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. 187,812, dated February 27, 1877; application filed July 8, 1876.

To all whom it may concern:

Be it known that I, OSCAR CHASE, of Rutland, in the county of Meigs and State of Ohio, have invented a new and valuable Improvement in Churns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top view of my improved churn. Fig. 2 is a side elevation thereof; and Figs. 3, 4, 5, 6, 7, 8, 9, 10, 11 are details.

This invention has relation to improvements in churns, wherein a pair of alternately-reciprocating dashers are employed for breaking up the butter-cells; and it consists in the arrangement and novel construction of the operative mechanism employed for imparting a reciprocating movement to the dasher-rods; in the devices for attaching the actuating devices to the churn-tub, and the dash-rods to the pitmen, all as hereinafter shown and described.

In the annexed drawings, the letter A designates the cream-receptacle of my improved churn, having the usual form, and provided with a removable lid, made up of two sections, *a*, of semicircular shape, either or both of which are readily removable.

B B represent right-angular lugs, secured in any suitable manner to the sides of tub A, diametrically opposite each other, and a certain distance below its upper edges. One of the arms *c* of these lugs is horizontal, or nearly so, and is provided with an oblong rectangular slot, *d*, the object of which will hereinafter appear.

C represents a strong metallic frame, composed of a semi-annular strip of metal, *f*, conforming to the curvature of the upper part of the tub, and of a second strip, *f'*, secured at each end to the ends of strip *f*, and bridging the top of the tub above the lid. This frame is provided at the junctions of its strips *f f'* with a downwardly-curved locking-arm, *g*, terminating at its lower end in a catch, *g'*, adapted to be passed into slots *d* in lugs B. The frame being in the position shown in

Fig. 2, catches *g'* will engage under lugs B, and hold the frame with some degree of steadiness against vertical vibration. I, however, prevent this altogether by means of a metallic stop, D, secured to the side of the tub, against which the strip *f* bears when in position, thus obviating all tendency to downward vibration; and I prevent upward vibration by means of a set-screw, *h*, passing through the said strip *f*, and abutting forcibly when set up against the stop D.

E E represent two parallel uprights, bolted, or otherwise secured, to strip *f'* of frame C, and affording bearings at or near the middle of their lengths for a horizontal shaft, F, having at each end a crank-arm, *k*, and between the said uprights with a cone-pulley, G.

The free ends of arms *k* are provided with a rabbeted slot, *i*, of oblong form, adapted to receive each a correspondingly-rabbeted nut, *i'*. Pitmen H are then secured to the said arms by means of a clamp-screw, *l*, combining the functions of an ordinary screw and wrist-pin.

Screws *l* are provided with a rabbeted screw-threaded end, *l'*, adapted to enter the threaded aperture in the nut, and a smooth cylindrical part, *l''*, next the thumb-piece *l'''*, upon which the pitman has its movement. Slot *i* being of some length, the throw of the crank-arms may be increased or lessened, thereby increasing or lessening the stroke of the dash-rods *i*, to which the upper ends of the pitmen are attached, according to the quantity of cream in the tub.

J indicates strong metallic clamps, of the general shape of the letter U, into which the dash-rods are passed, and then secured by means of a set-screw, *j*.

These clamps are each provided with a wrist-pin, *j'*, to which the upper ends of the pitmen are secured, in the usual manner. These clamps being open, the dash-rods I may be easily detached therefrom by unfastening set-screws *j*. Dash-rods I will necessarily reciprocate vertically when rotary motion is imparted to the shaft F. Uprights E E are connected at their upper ends by a tubular brace, *m*, within which is arranged a helical spring or springs, *n*. This brace is provided at each end with a projection, *o*, forming one of the jaws

of a clip, K, through which the dash-rods I project, the other jaw, *o'*, being formed by a horizontally-vibrating lever, the weight end of which is connected to spring *n*, and its power end provided with a thumb-piece, *p*. Spring *n* serves to hold jaw *o'* of the clip engaged with jaw *o*.

By pressing the thumb-plates inward, the dash-rods may be taken out of the clip, then disengaged from the clamps, and the dashers L, which are of semicircular form and perforated, removed from the cream-tub with ease and dispatch. They may be returned with equal facility to their places.

Motion will be imparted to shaft F through the medium of endless belts M N passing around cone-pulley G, and a second cone-pulley, G', upon a second shaft, O. This shaft has its bearings in two arms, P P, extending out horizontally from uprights E E, and stayed against downward vibration by means of braces *g*, connected to strip *f* of frame C, and bolted or otherwise secured to the said arms P P. Shaft O will be actuated usually by means of a crank-arm, Q, and will be provided with a fly-wheel, R, for the purpose of regulating the reciprocations of the dash-rods and overcoming the dead-centers; and in order to tighten belts M N, should they become unduly lax, I have devised the following: Shaft O will be journaled in blocks *r*, arranged in a rectangular frame, *r'*, at the ends of arms P P, and will have endwise horizontal play therein after the manner of a sash. The bearings will

be each provided with a tang, *s*, extending beyond the frame toward shaft F, and the necessary tension of the belts maintained, when obtained, by means of a clamp-screw, *t*, passing through an oblong slot, *u*, in the arms P P, into a screw-threaded perforation in the tangs *s* of the blocks.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a churn, the combination of the frame C, having arms *g*, catches *g'*, and the set-screw *h*, and the tub A, having slotted lugs B and stop D, substantially as specified.

2. The combination, with a churn-pitman and the crank-arm *k*, having the rabbeted slot *i*, of the rabbeted nut *i'*, extending into said slot, and the clamp-screw *l*, substantially as specified.

3. The combination of the shaft F, having pulley G and crank-arms K K, the adjustable shaft O, having pulley G', and the belts M N, with the dasher-shafts and pitmen, substantially as and for the purpose specified.

4. The clip K, having a fixed jaw, *o*, and a horizontally-vibrating lever-jaw, *o'*, in combination with the dash-rods I and a spring, *n*, as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

OSCAR CHASE.

Witnesses:

JAMES PETTY,
EDWARD OAKS.