J. E. MARQUIS.

RECIPROCATING CHURN.

No. 188,391. Patented March 13, 1877.

Fig 1.

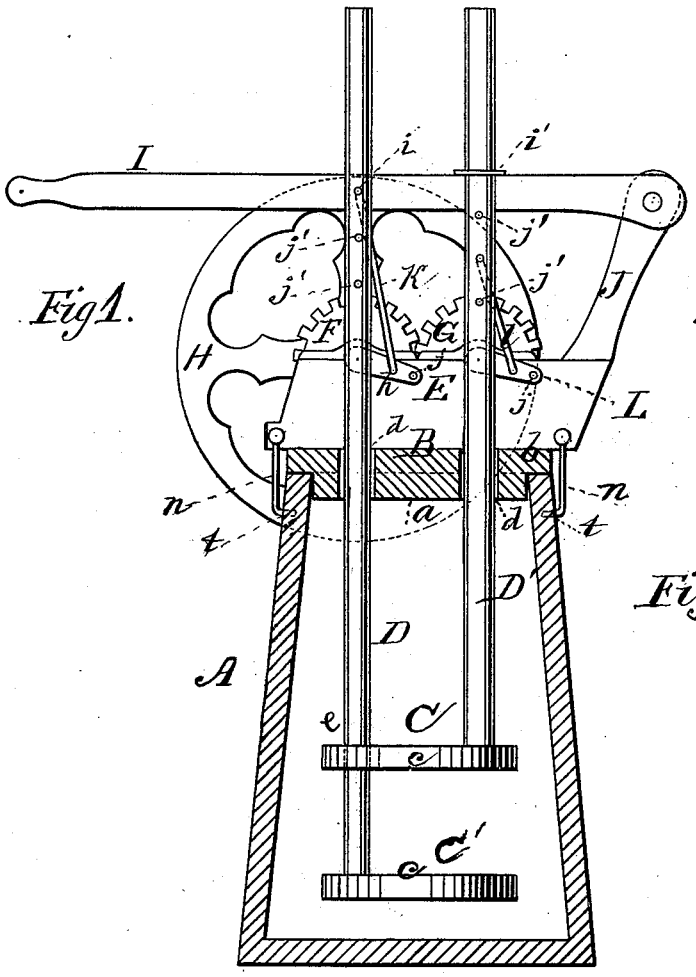


Fig 2.

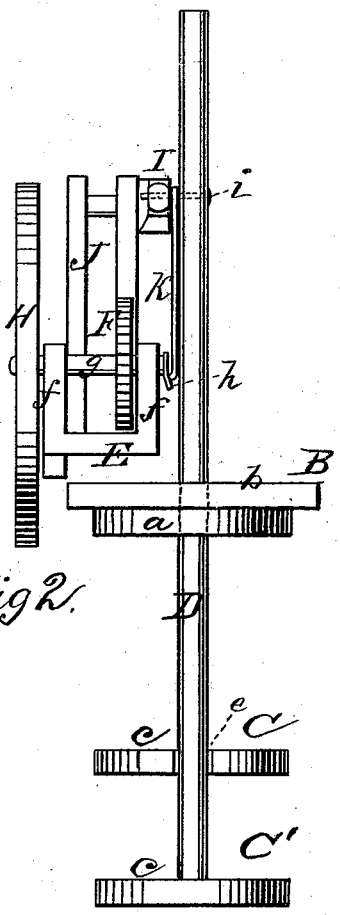
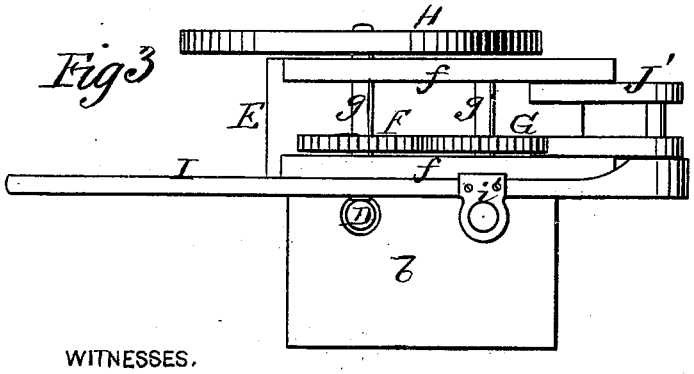


Fig 3



WITNESSES.

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JOSEPH E. MARQUIS, OF SHARON, OHIO.

IMPROVEMENT IN RECIPROCATING CHURNS.

Specification forming part of Letters Patent No. **188,391**, dated March 13, 1877; application filed December 9, 1876.

To all whom it may concern:

Be it known that I, JOSEPH E. MARQUIS, of Sharon, in the county of Noble 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 vertical central section of my improved churn. Fig. 2 is a detail view of the actuating device, and Fig. 3 is a plan view of the same.

This invention has relation to improvements in churns; and it consists in the arrangement and novel construction of the mechanism for giving motion to the dash-rods, as will be fully understood from the following description.

In the annexed drawings, the letter A indicates an ordinary cream-receptacle, of the usual form, and either of wood or metal. B indicates the lid, consisting of a circular part, *a*, fitting snugly in the open upper end of the vessel, and a rectangular part, *b*, secured to part *a*, and resting upon the upper edge of the same, as shown in Fig. 1. C C′ represent the dashers, consisting of a preferably wooden disk, *c*, having a number of perforations in it for the passage of cream, and of preferably cylindrical rods, D D′, secured, respectively, to the disks, and extending up through perforations *d* in the lid B.

As shown in Fig. 1, rods D D′ are secured to disks *a*, near their edges, and rod D passes through a perforation or slot, *e*, cut in the edge of the upper disk, the object of this construction being to provide a guide for the said disks during their reciprocatory movements.

E represents a metallic frame, having spaced upwardly-projecting flanges *f*, in which are journaled the shafts *g g′* of two gear-wheels, F G. Shaft *g* is provided with a fly-wheel, H, upon one end, and a crank-arm, *h*, upon the other, and it receives motion from a vertically-vibrating lever, I, having its fulcrum at the upper end of an arm, J, projecting upward from the bed-frame E, through the medium of a pitman, K, connected at one end to crank-arm *h*, and secured at the other to lever I by means of a pin, *i*. This pin also passes through rod D, and secures it to the lever. Shaft *g′* is also provided with a crank-arm, L, and is connected with rod D′ by means of a pitman, *l*.

If motion be given to lever I, it will impart a vertically-reciprocating movement to dash-rod D, which, through the medium of pitman K, will actuate gear-wheel F, and impart rotary movement to the gear G, whence, through crank-arm L and pitman *l*, it will be converted into a vertically-reciprocating movement of the dash-rod D′.

In order to guide rod D′ during its reciprocations, its upper end will pass through a metallic guide, *i′*, secured to lever E, the opening through the plate *i′* being made sufficiently large to allow the said rod due play.

As shown in Fig. 1, the crank-arms will have a number of spaced perforations, *j*. The object is to obtain means whereby the length of the stroke of the dasher-rods may be regulated in accordance with the quantity of cream in vessel A. The rods D D′ will also have a number of spaced adjusting-holes, *j′*, formed in them for a like purpose.

The bed E, carrying the actuating mechanism, will be provided at each end with a hook, *n*, which will extend down the side of the vessel A, and engage with an eye, *t*, formed in its side. These hooks serve to secure the bed E and lid B removably to the vessel.

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

A reciprocating churn, the vertical dash-rods of which are adjustably attached to a horizontal lever, which carries guides for the upper portions of said rods, the rods having alternate action by means of two pinions actuated by pitmen from the lever, the whole operating mechanism being mounted upon the detachable top of the churn, substantially as shown and described.

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

JOSEPH E. MARQUIS.

Witnesses:

A. E. BROWN,

M. E. PEDICORD.