J. W. SIMMONS.

Churn.

No. 160,288. Patented March 2, 1875.

Fig. I.

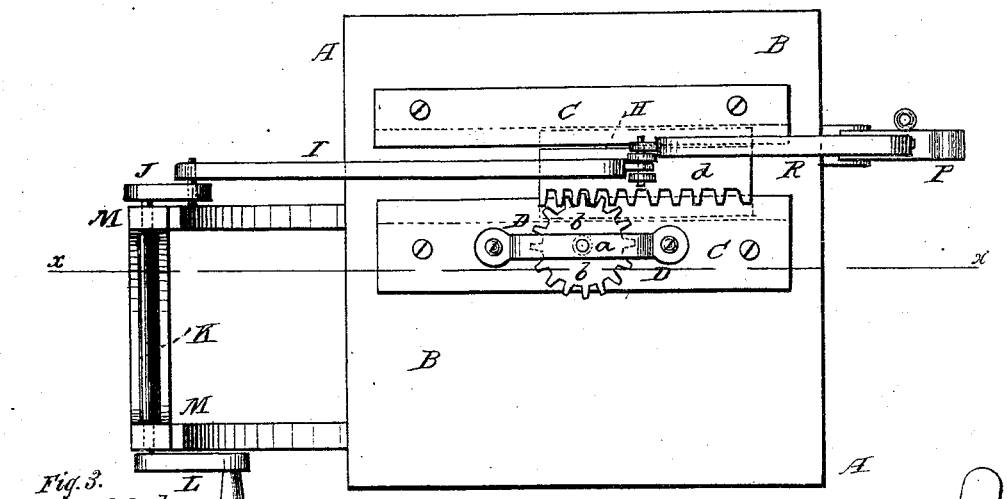


Fig. 3.

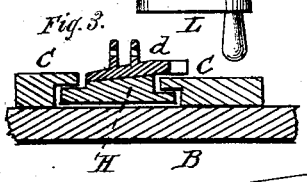
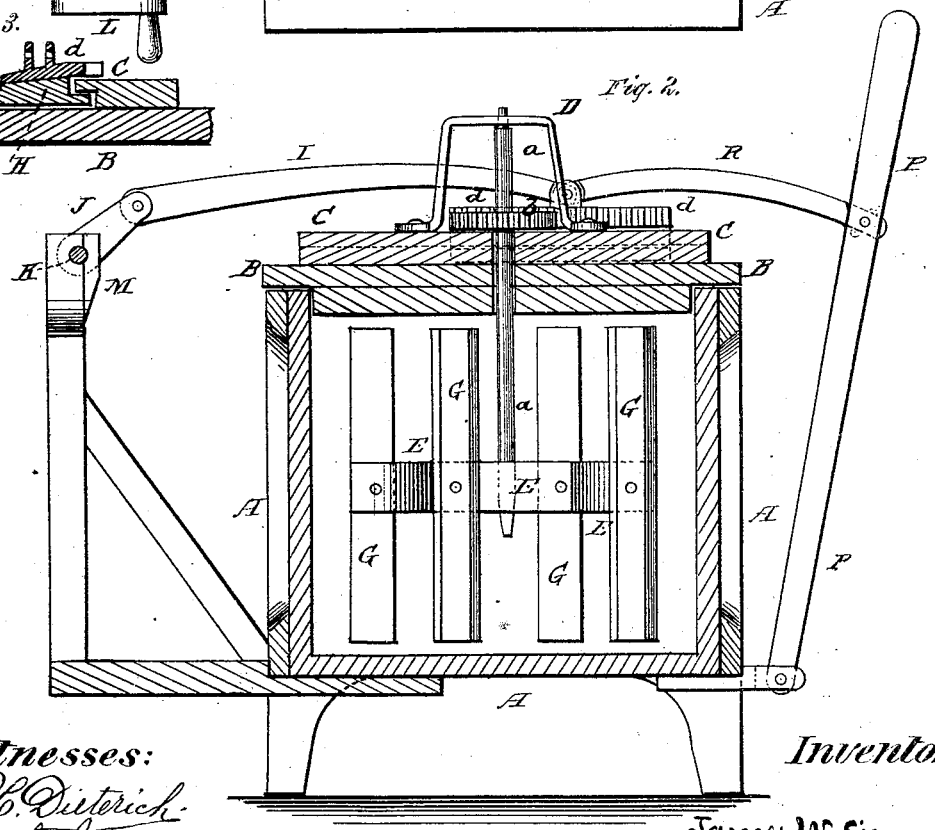


Fig. 2.



Witnesses:

P. C. Dieterich.

H. A. Scott.

Inventor:

James W. Simmons

per:

C. H. Watson & Co

Attorneys.

UNITED STATES PATENT OFFICE.

JAMES W. SIMMONS, OF EAST MONROE, OHIO.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **160,288**, dated March 2, 1875; application filed January 2, 1875.

To all whom it may concern:

Be it known that I, JAMES W. SIMMONS, of East Monroe, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Churns; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a churn, as will be hereinafter more fully set forth.

In the accompanying drawing, Figure 1 is a plan view. Fig. 2 is a central vertical section on the line *x x* of Fig. 1, and Fig. 3 is a detail view.

A represents a square box, of any suitable dimensions, supported upon legs or other supports, of any desired height. B is the lid of the churn box A, made to fit within and on top of the churn, as shown. On top of the lid B are secured two parallel strips, C C, one of which is in the center of the lid, and on top of this central strip is fastened an upright frame, D. Through the center of the lid B passes a vertical shaft, *a*, which has its upper bearing in the frame D, and upon which is secured a pinion, *b*, that rests upon the strip C, passing across the lid B. On the shaft *a*, near the lower end, is fastened a cross-bar, E, on each end of which are fastened two vertical bars or dashers, G G, the two dashers at each end of the cross-bar being secured on opposite sides thereof. The side of each dasher nearest to the cross-bar is flat, while the edges of the dasher are beveled, as shown.

The churn-dasher thus constructed is revolved reciprocatingly by means of a rack-bar, *d*, attached on top of a slide, H, moving back and forth between the bars C C, the slide being dovetailed or rabbeted into the edges of said bars or strips.

The slide H is, by a pitman, I, connected with a crank, J, on the end of a shaft, K, which has its bearings in a standard, M, connected to the side of the churn, and on the other end of the shaft is another crank, L, by means of which the shaft is revolved, thereby imparting a reciprocating motion to the slide H, and through the medium of the rack-bar *d* and pinion *b* a rotary reciprocating motion to the churn-dasher.

In lieu of the above device for operating the slide H, it may be moved by means of a lever, P, hinged or pivoted at the bottom on the opposite side of the churn, and connected by a rod, R, with the slide. Then, by working the lever P back and forth, the slide and churn-dasher are operated.

If desired, both devices may be used at the same time, one person operating the crank-shaft, and another the lever.

The churn-dasher being revolved reciprocatingly, as described, the milk or cream is rapidly converted into butter, or rather the butter is rapidly separated therefrom in a thorough and efficient manner.

I am aware that reciprocation churn-dashers have been used, and that a rack to operate the same is old, and I lay no claim to such device; but

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

The rack-bar *d* and strips C C, attached directly to the lid B, in combination with shaft *a*, pinion *b*, frame D, arranged to operate the dasher by means of connecting-rods I R, all constructed and arranged as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES W. SIMMONS.

Witnesses:

JOHN B. CAROTHERS,

ELISHA WINGATE.