2 Sheets—Sheet 1.

J. P. GOODHUE.

RECIPROCATING Cchurn.

No. 184,517. Patented Nov. 21, 1876.

Fig. 1.

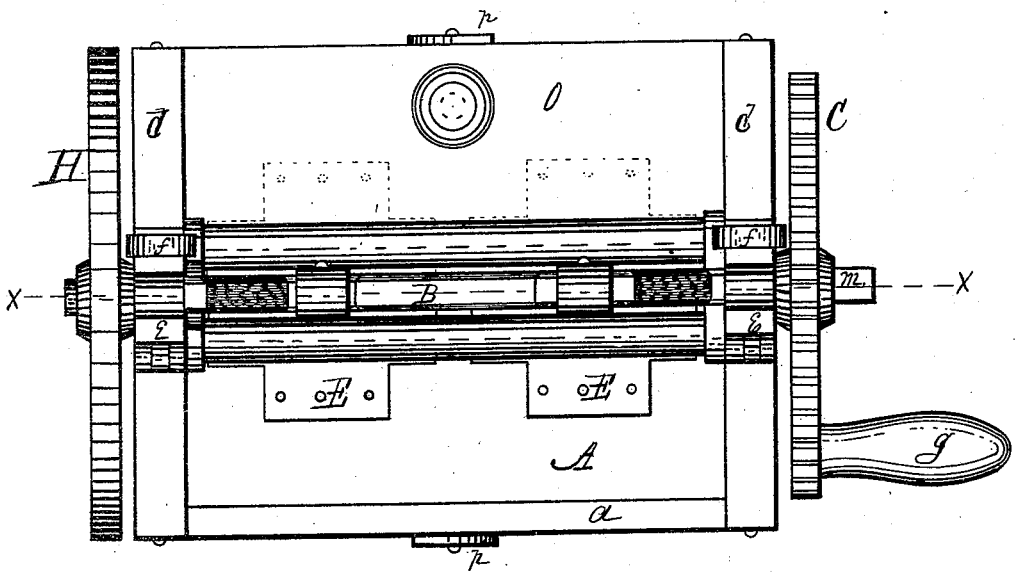
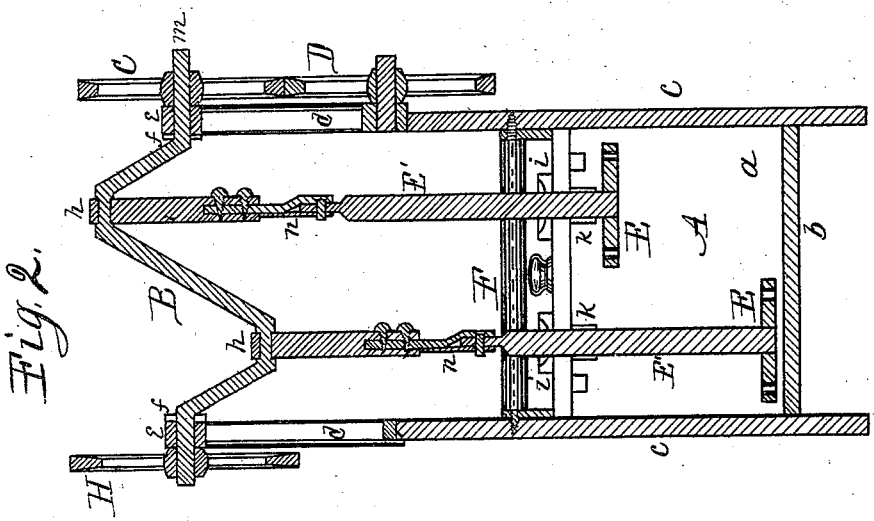


Fig. 2.



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2 Sheets—Sheet 2.

J. P. GOODHUE.

RECIPROCATING CHURN.

No. 184,517. Patented Nov. 21, 1876.

Fig. 4.

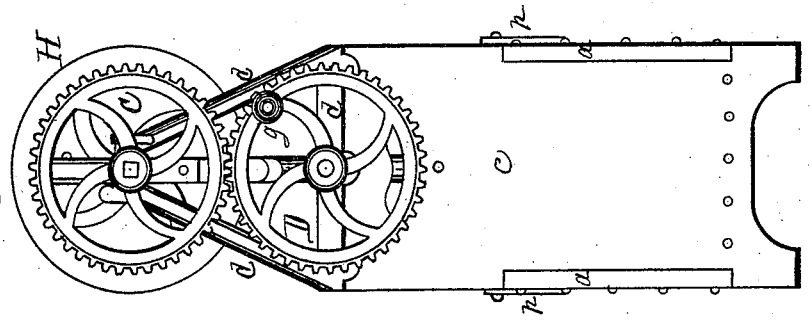
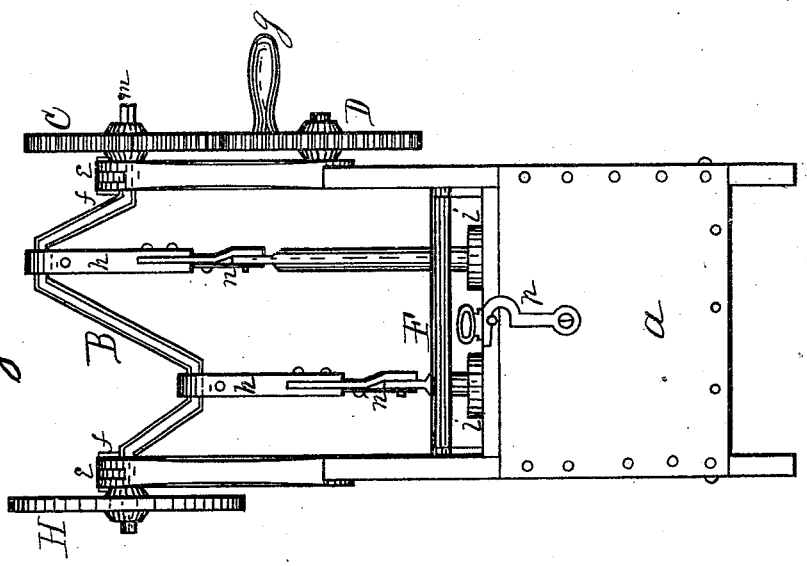


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES P. GOODHUE, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN RECIPROCATING CHURNS.

Specification forming part of Letters Patent No. **184,517**, dated November 21, 1876; application filed July 5, 1876.

To all whom it may concern:

Be it known that I, JAMES P. GOODHUE, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Churns, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

My invention relates to that class of churns known as the "dash" churn, in which the butter is formed by an up-and-down movement of the dash through the cream in the churn; and consists in the devices, the combinations, and arrangement of devices represented in the drawings, which I now proceed to explain.

In the drawings, Figure 1 is a plan view of my improved churn. Fig. 2 is a vertical section on dotted line *x*. Fig. 3 is a side elevation, and Fig. 4 is an end elevation.

In the drawings, A represents a churn of rectangular box form, composed of sides *a*, bottom *b*, and ends *c*, secured to each other in any suitable manner, in the form represented in the drawings. The ends *c* extend below the bottom of the churn, and form feet, on which the churn is supported. They also rise above the churn, and the brackets *d* are secured to their upper ends. B is a double-throw crank-shaft, journaled in suitable bearings on the upper ends of the brackets *d*. These bearings are fitted with hinged caps *e*, held in place by clasping-loops *f*, hinged to the bracket *d*, and made to swing over the free end of the cap in such a manner as to hold it in place, with the crank-shaft in position to revolve in the bearings. The hinged loops *f* are also made to swing off from the free ends of the caps *e*, to permit the caps to be raised for the purpose of removing the crank-shaft and the parts thereto attached. C is a gear-wheel, mounted on the projecting end of the double crank-shaft, and its teeth engage the teeth of a like gear-wheel, D, having its bearing on a projecting stud secured centrally in the lower part of one of the brackets *d*. The wheel D is fitted with a winch-handle, *g*, by means of which motion is imparted to the crank-shaft through its connection therewith by means of the gear-wheels. E are dashers of ordinary construction, fitted to operate in the churn, having their stems E′ to pass upward through the lid, and are connected to the crank-shaft by pitmen or connecting-rods *h*, in such a manner that when the crank-shaft is rotated an alternate up-and-down churning motion will be imparted to the dashers, causing one to rise as the other descends. The dash-stems are connected to the pitmen by a hinge-joint fitted with a pivoted spring-keeper, *n*, which overlaps the hinge-joint, and is bored to receive the free end of the pin on which the dash-stem is hinged. O represents the churn-lid, which is composed of two equal parts, which meet in the center, each half being provided with a semi-opening to encircle the dash-stems, and are fitted on their upper sides with churn-bowls, as at *i*, for the purpose of returning to the churn cream carried up by the dash-stems. The under side of the lids are provided with downward-projecting collars, as at *k*, which encircle the dash-stems, and serve to give steadiness to the dashes, and prevent the cream from rising with the dash-stems. F are removable rollers, fitted to revolve in bearings on the ends of the churn, and are placed at a proper distance above the churn-lid, one on each side of the dash-stems, and are employed for the purpose of giving direction to the dash-stems in their up-and-down movement.

In the drawings these rollers are represented as being pivoted in bearings on the end of the churn; but I do not wish to confine myself to this particular manner of pivoting them, as it is evident that the rollers may be pivoted, one on each half of the lid, in bearings secured thereto, and may be so pivoted to the lids as to be removable therefrom, and still serve the purpose of guides to the dash-stems. H is a fly-wheel employed for the purpose of overcoming the unequal resistance in operating the dashes. The object of employing the gear-wheels C and D is to bring the winch-handle in easy reach of the operator when seated in a common chair; and when a cheaper churn is required, I construct them omitting the gear-wheels C and D, and provide a winch-handle, to be applied to the square end *m* of crank-shaft B.

In using this churn, the lid or lids being removed, the cream is placed in the churn, and the lids secured in place by means of the

hasps *p;* then, by means of the winch-handles *g*, motion is imparted to the dashes until the butter is formed, when the rollers F and the lids are removed, and also the dashes, which may be accomplished by disconnecting them from the pitmen; or the crank-shaft, with the dasher thereto attached, may be removed from the churn by disengaging the clasping-loops *f* from the hinged caps.

I claim as my invention—

In a reciprocating dasher-churn, parted lid O, having bowls *i* thereon, and collars *k* depending therefrom, jointed dasher-stems E′, removable guide-rollers F, and revolving double crank-shaft B, constructed and operating as and for the purpose described.

JAMES P. GOODHUE.

Witnesses:

A. O. BEHEL,

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