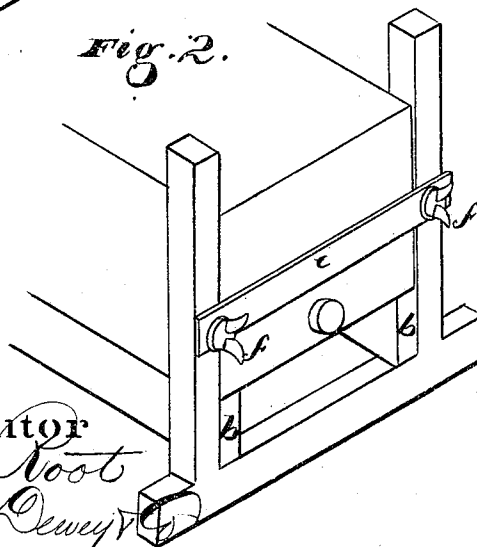
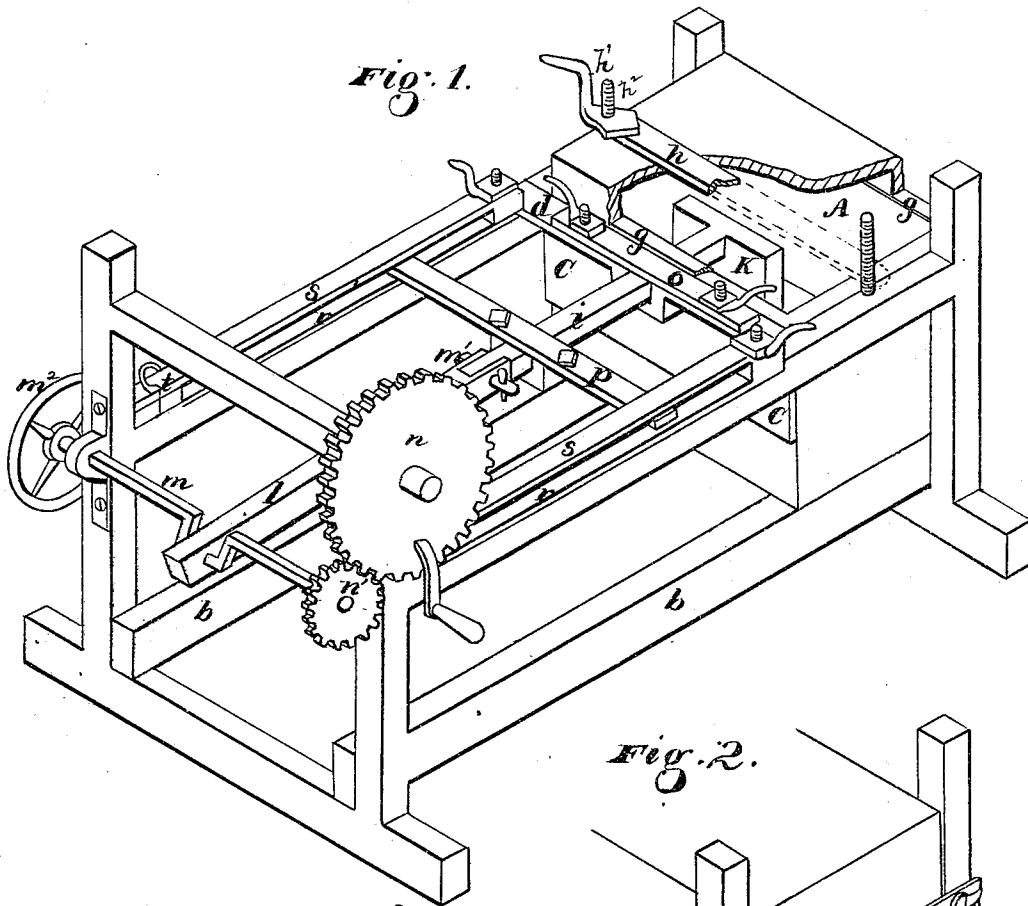


J. ROOT.
CHURN.

No. 179,489.

Patented July 4, 1876.



Witnesses
Geo. H. Strong
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UNITED STATES PATENT OFFICE.

JAMES ROOT, OF WOODLAND, CALIFORNIA.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. 179,489, dated July 4, 1876; application filed April 27, 1876.

To all whom it may concern:

Be it known that I, JAMES ROOT, of Woodland, Yolo county, State of California, have invented an Improvement in Churns; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

This invention relates to an improvement in churns; and it consists in the construction and arrangement of devices for guiding and maintaining the dasher-rod in proper position, as hereinafter set forth.

Referring to the drawings, let A represent the removable churn-box, which is arranged to slide into place upon the lower side bars *b b* of a frame consisting, principally, of cross-bars and uprights conveniently arranged and connected for supporting the operative mechanism hereinafter described.

The packing around the dasher-rod consists of an elastic cloth or cushion, *c*, which will be compressed between the dasher-board and a bar, *d*, when the box is pressed forward upon the same. The devices for effecting such pressure, and also for securing the box firmly in place, consist of an independent end plate or bar, *e*, which is compressed upon the box by means of screw-nuts *f f*, arranged to work upon bolts set into the frame of the machine. The cover of the box A is also provided with an elastic packing strip or cushion, *g*, and it is in like manner compressed and secured in place by means of a pressure-bar, *h*, and nuts and bolts *h¹ h²*.

The dasher-rod *i* of dasher *k* is arranged to have horizontally-reciprocating movement, and it is connected with the pitman *l* of a crank-shaft, *m*, by means of a suitable joint, as at *m¹*, whereby it may be swung back for the purposes of removing the box, as hereinafter more fully explained.

The crank-shaft *m* is provided with a balance-wheel, *m²*, of suitable proportions, and it is operated by suitable gear-wheels *n n'*, the larger of which is provided with the usual crank-handle.

In order to maintain the dasher-rod within the guide-bar *d* during its operation I secure a removable plate, *o*, upon said bar and over the rod by means of screw nuts and bolts, arranged to operate substantially as in the cases of the pressure-bars previously mentioned. The dasher-rod is also further guided and steadied during operation by means of a cross-bar, *p*, secured thereto near the joint *m¹*, and arranged to work within ways *r r* upon the side timbers of the frame. The bed-plates of these ways may be stationary; but the upper plates *s s* are pivoted, as at *t*, and locked in place by means of screw bolts and nuts, so that when it is desired to raise the dasher they may be unlocked and swung around for such purpose.

In order to remove the box, as in case the churning has been completed, I first unscrew the nuts and remove the pressure-bars, so that the cover may be taken off.

The nuts securing the several locking-plates *o s s* are unscrewed sufficiently to permit the plate *o* being removed and the plates *s s* swung around, after which the dasher and rod may be raised and swung back upon the joint sufficiently to admit of the withdrawal of the box from the frame.

The reciprocating movement given to the dasher by means of the crank-shaft and gear-wheels is very rapid and effective in producing the desired results.

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

A churn constructed with a removable box and pivoted dasher-rod, and having the removable bar *o* and swinging bars *s s*, arranged to be locked down by means of screw-nuts, as shown, and the pivoted dasher-rod, provided with cross-guide *p*, and also working in cross-bar *d*, substantially as specified.

JAMES ROOT.

Witnesses:

WM. SAUNDERS,
HARRY W. DIEHL.