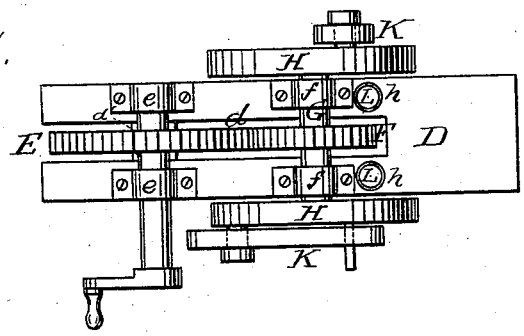
J. J. CURD.

RECIPROCATING CHURN.

No. 190,288. Patented May 1, 1877.

Fig. 1.



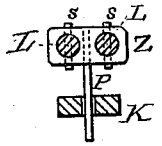
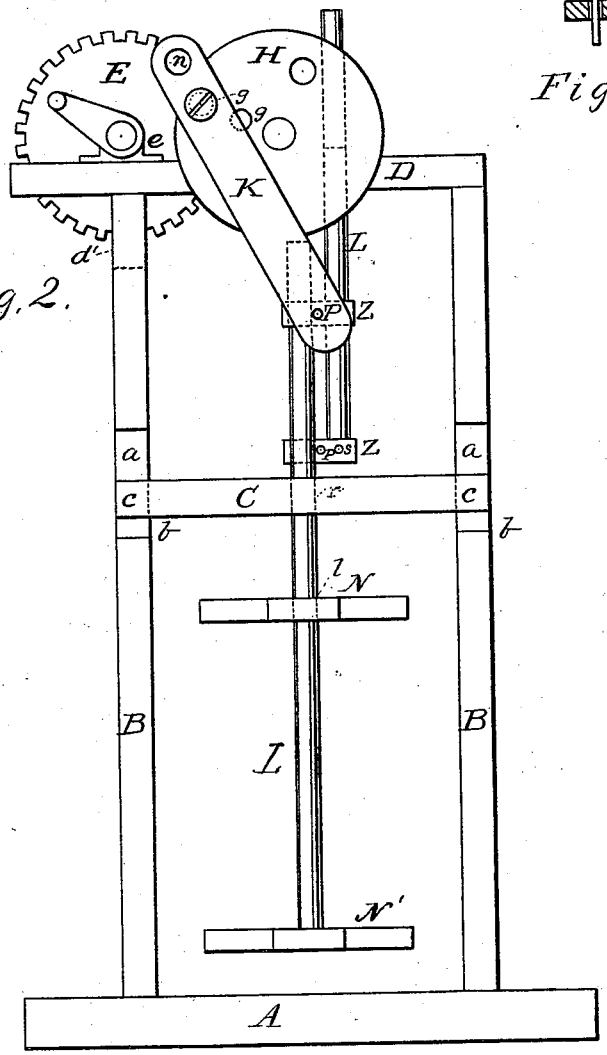


Fig. 3.

Fig. 2.



WITNESSES

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JOHN J. CURD, OF ROCKFIELD, KENTUCKY.

IMPROVEMENT IN RECIPROCATING CHURNS.

Specification forming part of Letters Patent No. **190,288**, dated May 1, 1877; application filed December 23, 1876.

To all whom it may concern:

Be it known that I, JOHN JAMES CURD, of Rockfield, in the county of Warren and State of Kentucky, have invented a new and valuable Improvement in Reciprocating-Churn Mechanism; 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, showing the frame cap-piece. Fig. 2 is a side view. Fig. 3 is a detail, showing the coupling of the dash-rod and guide.

This invention has relation to improvements in churning apparatus, as hereinafter shown and described in the claim.

In the accompanying drawings, the letter A designates the base of the frame, and B the standards mortised therein, and laterally recessed at *a* to form slideways and shoulders *b* for the arms or projections *c* of the transverse brace-bar C, designed to be arranged above the top of the churn-case.

D represents the cap-piece of the frame. This is slotted centrally and longitudinally at one end, as indicated at *d*, said end projecting over the standard of one side, so that this standard is brought directly under the bearings *e* of the main driving-gear E, which plays in said slot, and in a corresponding vertical slot, *d'*, of said standard. At the inner end of the horizontal slot *d* of the cap is located the central pinion F of the driving-shaft G, which is seated in bearings *f* on each side of the slot, and is provided at each end with a vertical circular driving-disk, H, having screw-holes *g* tapped at different distances from the center in the same radial line. These disks are in rigid relation to each other, and their screw-holes are at opposite ends of parallel diameters, so that the pitman-connections K will be balanced. Through the cap D at the ends of the journal-bearings *f* are the apertures *h*, through which the upper ends of the guides L of the dash-rods play.

N N' indicate the dashers, which play toward and from each other in a reciprocating manner, the stem of the lower dasher passing through a perforation, *l*, of the upper dasher.

Z represents metallic couplings, consisting of blocks or bars, each having a large vertical aperture at each end for the reception of the upper end of the dash-rod L and the lower end of the guide *z*. In communication with these perforations are arranged lateral set screws or pins S, whereby the adjustment of the dash-rods is fixed. Between the set screws or pins extends outward from each coupling a pivot-pin, P, which passes through a suitable aperture in the lower end of the pitman-connection K The upper end of the pitman-connection is pivoted to the disk H by means of a pivot, which is screwed in the outer or inner screw-hole *g*, according to the length of stroke required. The upper ends of the pitmen are provided, usually, with two or more pivot-holes, *n*, to facilitate the adjustment of the dashers, the position of which can also be regulated by the adjustment of the stems L in the couplings. These stems pass through perforations *r* in the cross-bar of the frame, and are thereby kept in proper relative position.

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

The churning apparatus consisting of dashers arranged to advance toward, and recede from, each other vertically, the rods of the same being adjustably connected to pitmen operated by mechanism above, attached to the main frame, the piston-rods passing through a vertically-adjustable cross-beam, which permits the entrance and rests upon the top of churn-vessels of different degrees of height, substantially as specified.

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

JOHN JAMES CURD.

Witnesses:
JAS. R. CURD,
JAS. S. BADGETT.