D. ROWLAND.

Reciprocating Churn.

No. 165,954. Patented July 27, 1875.

Fig. 1.

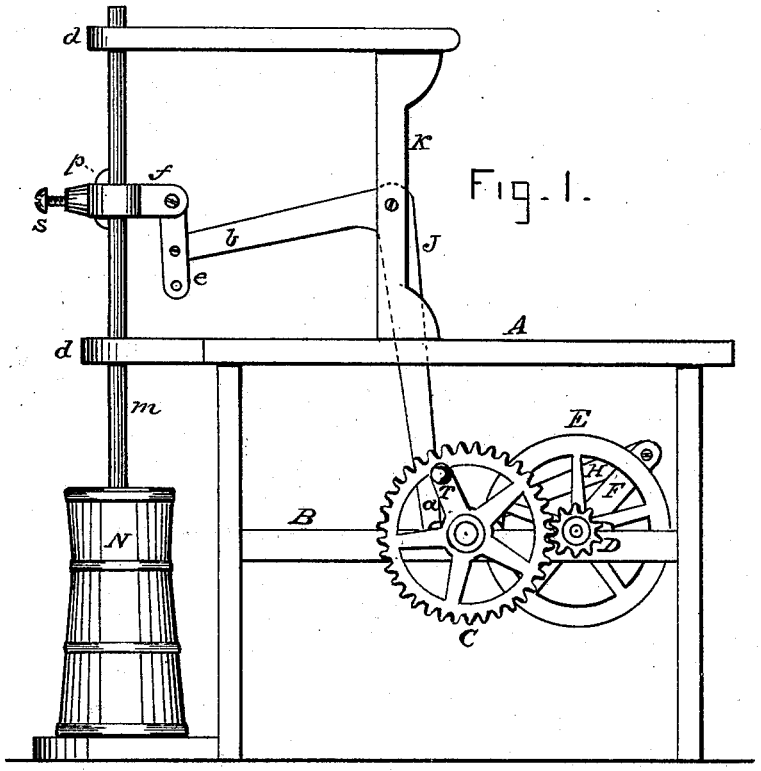
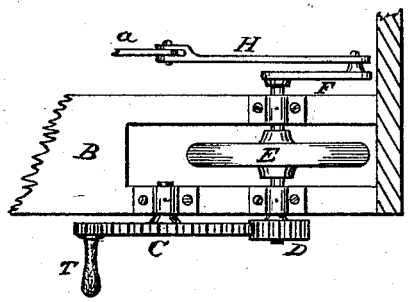


Fig. 2.



WITNESSES

Josiah N. Ellis

O D Levis

INVENTOR

David Rowland

UNITED STATES PATENT OFFICE.

DAVID ROWLAND, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN RECIPROCATING CHURNS.

Specification forming part of Letters Patent No. **165,954**, dated July 27, 1875; application filed March 2, 1875.

To all whom it may concern:

Be it known that I, DAVID ROWLAND, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful improvement in that class of mechanism intended to give a reciprocating rectilinear vertical movement to the dash-rod of an ordinary churn.

My invention consists in the peculiar construction, combination, and arrangement of the several parts shown and described, for the purposes of accomplishing the stated object, which construction, combination, and arrangement will be readily understood from the following description, taken in connection with the accompanying drawings, wherein—

Figure 1 represents a side elevation of my improved churning apparatus; Fig. 2, a top view of the driving mechanism.

I first construct a frame, A, which should be strongly made to enable it to withstand the wear, tear, and jamming motion produced by the churning process. On a platform, B, and near the middle of this frame, is arranged the driving mechanism, which consists of a large toothed wheel, C, that meshes into a smaller wheel or pinion, D, secured on one end of a transversed shaft supported in suitable bearings. Midway on this shaft is placed and secured a fly-wheel, E, and attached to the end farthest from the pinion D is a crank, F, connected by means of a link, H, to the lower end *a* of a long L-shaped lever, J, pivoted at or near its angle to a proper supporting-post, K, the opposite end or short arm *b* of this lever being also pivoted to a short drop-link, *e*, connecting to the projecting end of a cross-head, and attached to the vertical dash-rod *m* of the churn W, and which cross-head is made adjustable on the dash-rod by means of a gib, P, and binding-screw S, the dash-rod being held and supported in its vertical reciprocating movement by the projectors *d d* of the frame, through which the dash-rod passes.

The several parts, constructed, arranged, and combined as represented, can be put in motion on turning the large toothed wheel C by means of its handle T, which, in turn, will impart a rotary movement to the pinion D and its shaft, together with the fly-wheel E and long outside crank F, which, being connected by means of a link, H, to the lower arm of the L-shaped lever J, will produce therein a vibrating motion around its pivoted point; the short arm V of this lever being actuated in the same manner, which, by means of its connection with the cross-head *f* and its attachments to the dash-rod M, imparts thereto the requisite and proper up-and-down motion, and that in a vertical line.

I claim—

The cross-head *f*, gib P, and binding-screw S, in combination with the short drop-link *e* and L-shaped lever J, as and for the purposes set forth.

DAVID ROWLAND.

Witnesses:

O. D. LEVIS,

WILLIAM ROWLAND.