N. J. MILLER.

RECIPROCATING CHURN.

No. 186,599. Patented Jan. 23, 1877.

Fig. 1.

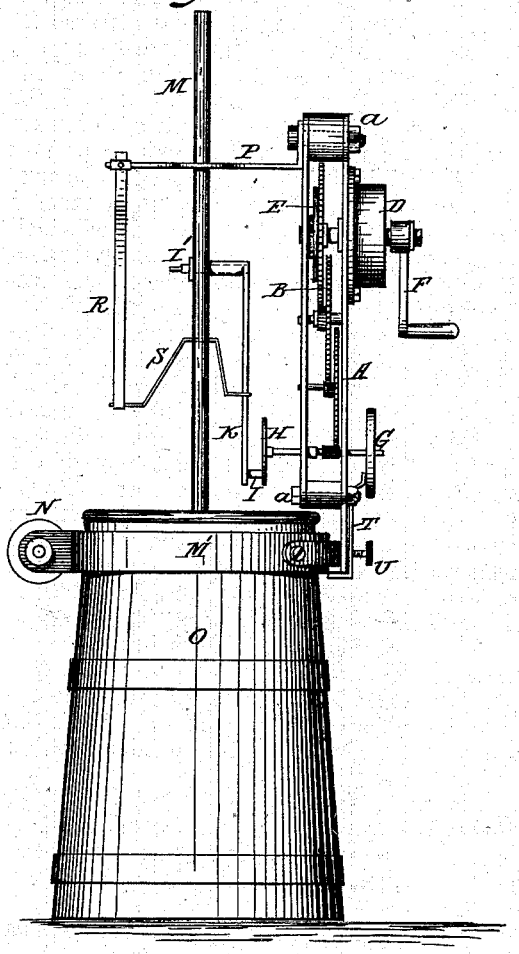
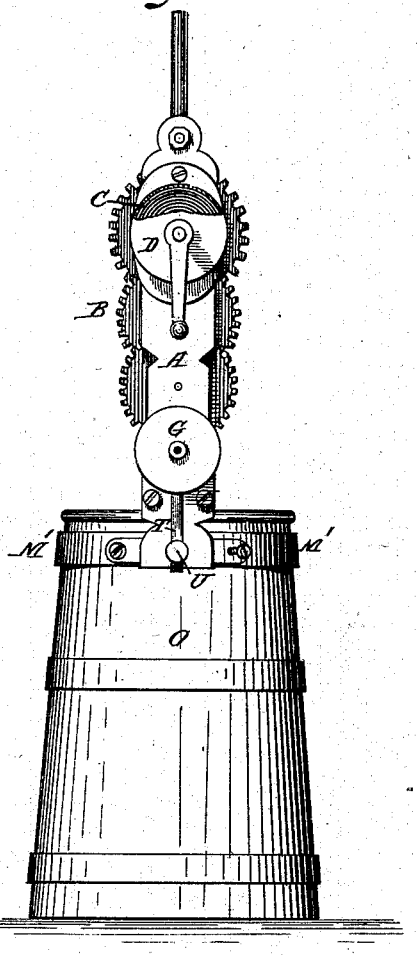


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

NOAH J. MILLER, OF LADONIA, TEXAS.

IMPROVEMENT IN RECIPROCATING CHURNS.

Specification forming part of Letters Patent No. **186,599**, dated January 23, 1877; application filed December 5, 1876.

To all whom it may concern:

Be it known that I, NOAH J. MILLER, of Ladonia, in the county of Fannin and State of Texas, have invented certain new and useful Improvements in Churns, of which the following is a specification:

This invention relates to certain improvements in motive power for churns, its object being to provide a compact system of automatically-operating gearing, that may be readily attached to the top of an ordinary churn, and, when connected with the dasher thereof, and put in operation, will impart to the dasher the proper reciprocating motion.

My invention consists in an upright frame composed of two standards, between which is arranged a train of gearing, a barrel being attached to one of said standards, and containing a convolute spring, which drives the gearing, and a horizontal arm being attached to the upper end of the frame, through which arm passes the dasher-rod, which latter is provided with a pin, to which one end of a pitman-rod is attached, the other end being attached to a crank-wheel driven by the train of gearing and the convolute spring, as hereinafter described; also, in the combination, with the frame, of a horizontal arm extending over the top of the churn, and provided with an aperture, in which the upper end of the dash-rod of the churn works, to serve as a guide for the same; and, further, in the combination, with the dash-rod and mechanism for operating the same, of a flat spring, secured at its upper end to the horizontal rod attached to the frame, and at its lower end to a bent lever passing through a slot in the churn-dasher, and encircling the pitman, by which motion is transmitted from the gearing to the dash-rod, for the purpose of carrying the crank by which the pitman is driven past the dead-center, as more fully hereinafter set forth.

In the drawing, Figure 1 represents a side elevation of my improved churn, and Fig. 2 a front elevation of the same.

In the drawing, the letter A represents an upright frame composed of two vertical standards, secured at the top and bottom by means of cross-pieces *a a*. In said frame is journaled a train of ordinary multiplying-gearing, B, to the shaft of the upper wheel of which is secured a coiled spring, C, located in a barrel, D, secured to the outside of the frame A. Said shaft is provided with the ordinary pawl and ratchet E, to permit winding, and has affixed at its outer end a crank or key, F, for the purpose. To the lower shaft of the train is secured at one end a fly-wheel, G, and at the other a driving-wheel, H, which is provided with a crank, I, to which is connected one end of a pitman, K, the other end of which connects with a pin, I′, secured to the dash-rod M of the churn, by which motion is transmitted from the train to the dash-rod. To the lower end of the frame A are secured two segmental straps, M′, with offsets at their free ends, through which passes a set-screw, N, for the purpose of clamping the frame around the upper end of the churn O, and securing the frame thereto. To the upper part of the frame A is secured a horizontal arm, P, extending over the churn, and provided with an aperture in which the dash-rod works, and which serves as a guide for the same. Said arm also serves as a support for a flat metallic spring, R, the lower end of which is connected to a bent lever, S, at one end, said bent lever passing through a slot in the dash-rod, and encircling at its other end the pitman, the operation of which will carry the crank past the dead-center, and thus facilitate the operation of the apparatus.

In order to stop the motion when desired, the frame is provided with a brake, T, operated by means of a set-screw, U, to be pressed against or released from the fly-wheel, as required.

The operation of my improved device is as follows: Upon winding up the spring and releasing the brake from the fly-wheel, the train of gearing will be put in motion, imparting a reciprocating motion to the dash-rod, the flat spring and lever throwing the crank past the dead-center, and thus insuring the proper working of the apparatus.

By means of the segmental straps, it is evident that the device may be readily secured to any ordinary churn.

What I claim, and desire to secure by Letters Patent, is—

1. The upright frame A, composed of two

standards connected at their upper and lower ends, the train of gearing arranged between said standards, the barrel D, attached to one of the standards, and the convolute spring C, arranged therein, for driving the gearing, in combination with the horizontal arm P, the dasher-rod having the pin I′, the pitman K, and crank-wheel H, substantially as described.

2. The combination, with the upright frame A, the train of gearing, and the convolute spring C, arranged in the barrel D, for driving said gearing, of the horizontal arm P, the depending flat spring R, the bent lever S, the pitman K, connected with the dasher-rod, and the crank-wheel H, connected with the pitman, substantially as described.

3. In combination with the frame, its gearing and horizontal rod, the flat spring attached to said rod, and the bent lever connected to the lower end of said spring, and passing through the dash-rod and encircling the pitman, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

NOAH J. MILLER.

Witnesses:
J. L. CAYLOR,
CHAS. D. GRACE.