Z. G. LASHER.

Churn Motor.

No. 196,365. Patented Oct. 23, 1877.

Fig. 1.

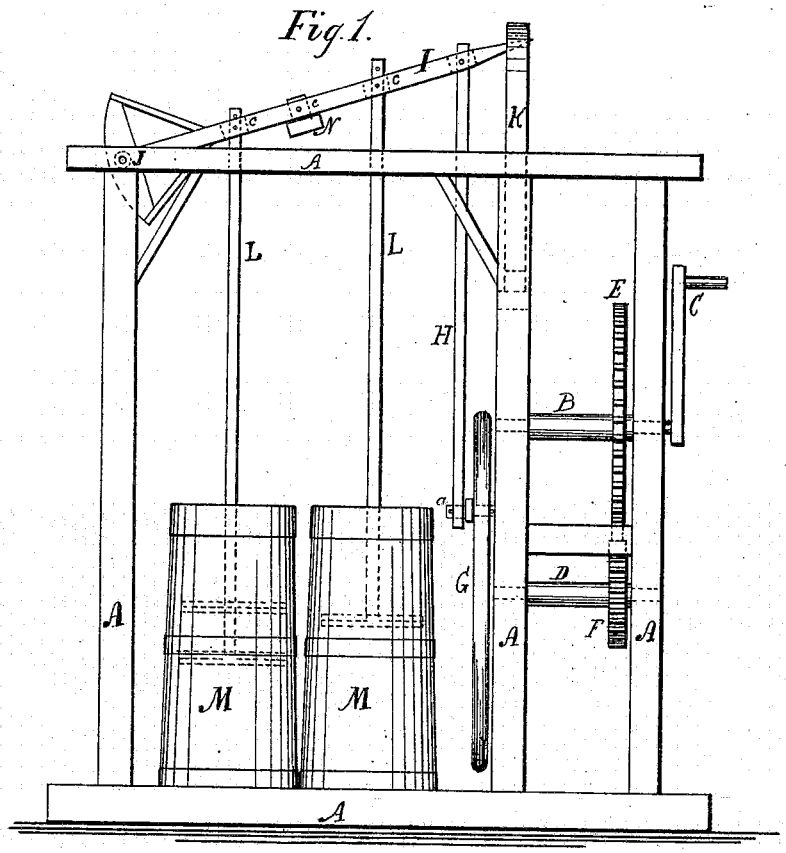
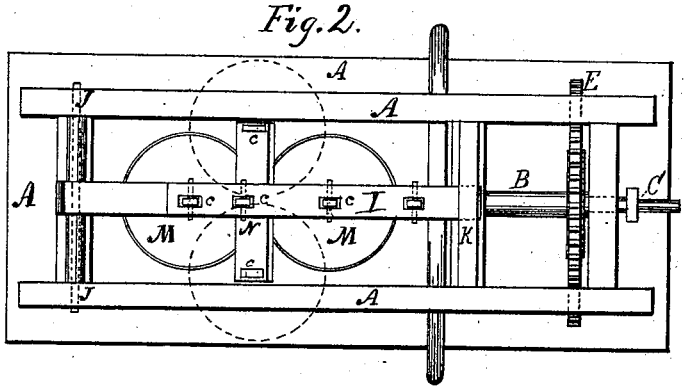


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

ZACHARIAH G. LASHER, OF CLERMONT, NEW YORK.

IMPROVEMENT IN CHURN-MOTORS.

Specification forming part of Letters Patent No. **196,365**, dated October 23, 1877; application filed October 2, 1877.

To all whom it may concern:

Be it known that I, ZACHARIAH G. LASHER, of the town of Clermont, in the county of Columbia and State of New York, have invented certain new and useful Improvements in Churn-Motors; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to produce a motor by which one, two, or more churns may be operated, and the stroke of the dashers readily varied, according to the amount of cream to be churned or the power of the operator.

It consists, mainly, in the use of a vibrating lever operated by suitable gearing, and so arranged that one or more churn-dashers may be easily connected to it, and their strokes varied to suit circumstances, the whole being so combined and arranged as to be simple in construction, easily operated, and not liable to get out of order.

In the drawing, Figure 1 represents a side elevation of a motor constructed according to my invention, and Fig. 2 a plan.

A A A A A represent a frame, consisting of a base, uprights, and caps, in which is mounted a shaft, B, driven by a crank, C, and giving motion to the shaft D by means of the gear E and pinion F. On the end of shaft D is a fly-wheel, G, having a wrist-pin, *a*, carrying the pitman H, pivoted to the vibrating lever I, one end of which is mounted on suitable bearings at J J, and the other works in a fixed guide, K. In this lever are made several apertures, *c c c*, to receive the upper ends of the dash-rods L L, which operate in the churns M M. To this lever is attached a cross-bar, N, also having apertures *c c* to receive dasher-rods, so that, in addition to those shown, two more dashers and churns may be employed, if necessary; or the same two dash-rods shown may be attached to the cross-bar N, in which case, of course, the churns would be arranged transversely, instead of longitudinally, on the base of the machines, as shown in dotted lines on Fig. 2. This cross-bar may be set in either of the apertures *c c c*, and can thus be adjusted in several positions on the lever I, whereby the length of the stroke of the dasher attached to said cross-bar may be regulated at will when only two churns are employed.

By dispensing with the cross-bar and using only one churn, the stroke of the dasher may be varied in the same manner, by setting the end of the rod in the aperture corresponding with the motion required.

Another means of adjusting the stroke is provided by making two or more holes in the arms of the wheel G, at different distances from its center, whereby the vibration of the lever itself may be changed, and the motion of the dasher-rods with it.

The tops of the dasher-rods are provided with several pin-holes, so that the depth of the dashers in the cream may be changed to suit the quantity in the churn.

If desired, the lever may be extended in the manner of a walking-beam, and churns operated by the extension also.

By the peculiar construction and arrangement of my motor, either one or two churns may be operated with any required variation of motion; or two dashers may be driven with different lengths of stroke; or motion may be given to four dashers at the same time, two of which will have medium strokes, a third a long one, and the fourth a short one, according to the power of the person running the motor, or the quantity of or condition of the material to be operated on.

The short-stroke dash-rod should have two dashers attached to it, so as to make its work approximate to that one having the long stroke. Either one or both of these dashers should be adjustable on the rod to suit the quantity of cream in the churn.

If preferred, the churn-motor may be operated by steam, water, or animal power.

What I claim as my invention is—

1. A churn-motor provided with a vibrating lever, so constructed and arranged as to admit of one or more churn-dashers being attached to it at different positions, whereby the stroke of a single one may be varied at pleasure, or two may be run at different speeds, substantially as shown and described.

2. The combination, with the vibrating lever I, of the cross-bar N, substantially as described, and for the purpose specified.

3. The combination of the frame A A and operating-gear B C D E F G H with the lever I and guide K, all constructed and arranged substantially as shown, and for the purpose set forth.

4. The combination of the frame A A and gearing B C D E F G H with the lever I and cross-bar N, substantially as shown and described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ZACHARIAH G. LASHER.

Witnesses:

MORGAN LASHER,
GILES H. O'NEIL.