(No Model.)

L. A. MILLER.

VIBRATING Cchurn.

No. 454,752. Patented June 23, 1891.

Fig. 1.

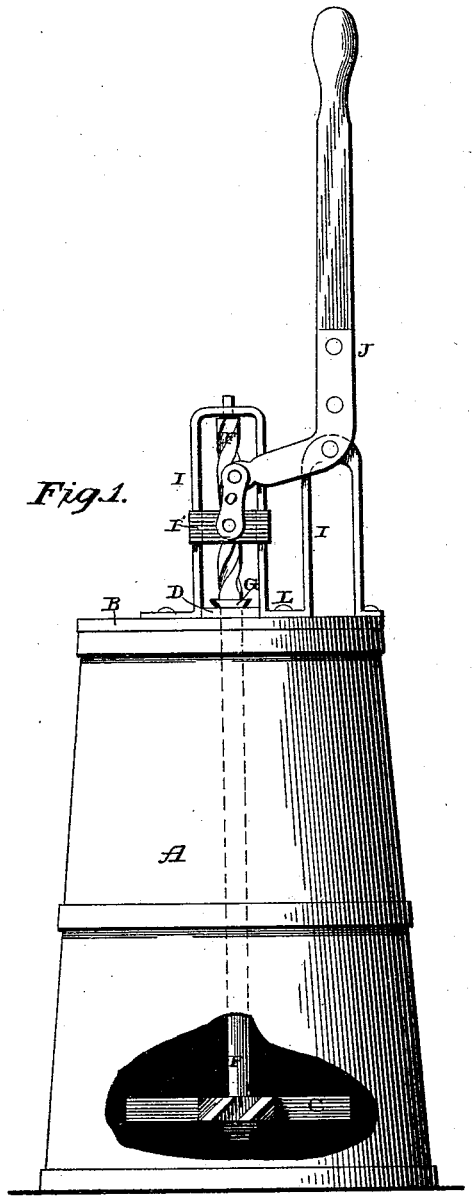
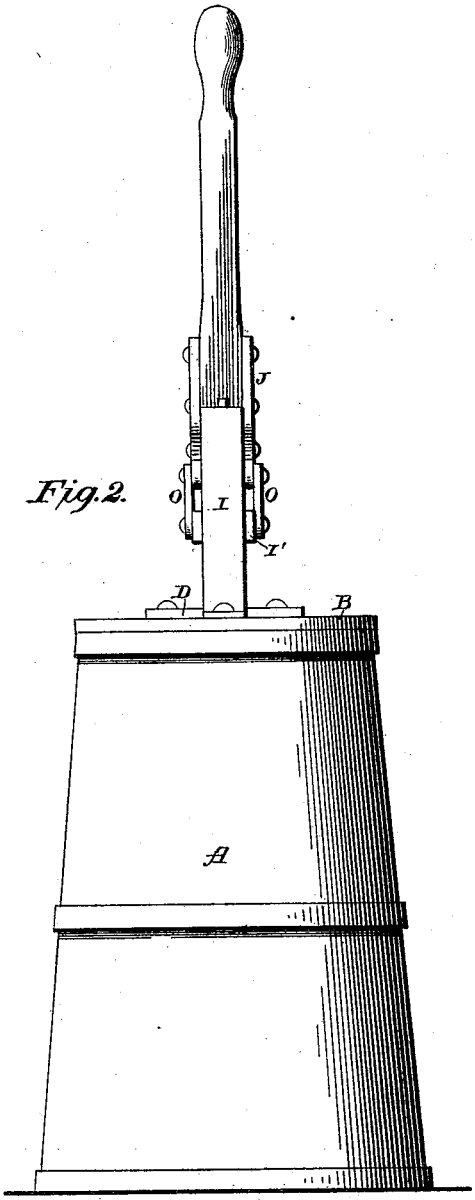


Fig. 2.



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UNITED STATES PATENT OFFICE.

LUTHER ALISON MILLER, OF WEATHERFORD, TEXAS.

VIBRATING CHURN.

SPECIFICATION forming part of Letters Patent No. 454,752, dated June 23, 1891.

Application filed February 13, 1891. Serial No. 381,316. (No model.)

To all whom it may concern:

Be it known that I, LUTHER ALISON MILLER, of Weatherford, in the county of Parker and State of Texas, have invented certain new and useful Improvements in Vibrating Churns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in vibrating churns; and it consists in the combination of a churn and its cover with a double-U-shaped frame which is formed from a single piece of metal and secured to the churn-cover, a spirally-grooved operating-shaft which extends through a suitable bearing secured to the cover and which has its upper end journaled in the U-shaped frame, a vertically-moving operating-head, through which the shaft passes and for which the frame forms suitable guides, connecting-links, and an L-shaped operating-lever, which is also pivoted upon the frame, as will be more fully described hereinafter.

The object of my invention is to produce a motor for vibrating churns, whereby the dasher is given a rapid rotary vibrating movement and with but very little exertion to the operator.

Figure 1 is a side elevation of a churn which embodies my invention, the body of the churn being shown partly in section. Fig. 2 is an edge view of the same.

A represents the churn, B the cover, and C the dasher. Secured to this dasher and projecting up through a suitable bearing D, which is secured to the cover of the churn, is the shaft F, which is provided with a collar G, which rests directly upon the top of the bearing and prevents the shaft from having anything but a rotary movement. Above this collar the shaft is provided with two or more spiral grooves, as shown, as a means for causing the shaft to revolve first in one direction and then in the other.

Secured to the top of the churn is a double-U-shaped frame I, which serves not only as a bearing for the upper end of the grooved operating-shaft, but as a guide for the operating-head I′ and a support for the operating-lever J. The ends of this frame are turned outward, as shown, and through these ends and through the center of the frame at L are passed screws, nails, or clamping-bolts for the purpose of securing it rigidly to the cover B.

The operating-head I′ has an opening through it which corresponds to the shape of the shaft, and this head is grooved at its ends so as to fit over opposite edges of the supporting-frame, which acts as a guide for it in its vertical movements. This head I is connected to the lower end of the lever J by means of the connecting-rods O, so that as the lever is rocked back and forth upon its pivot the head I is made to move vertically back and forth over the shaft, which is thereby given a rapid rotary motion. This lever J is pivoted upon the supporting-frame, as shown, and owing to the amount of leverage given by my arrangement of parts a very rapid vibrating motion can be given to the dasher with but very little exertion to the operator.

This machine is also adapted to be used as a washing-machine, as the construction shown especially fits it for this purpose.

Having thus described my invention, I claim—

1. The combination of the churn and its cover with a supporting-frame, the spirally-grooved operating-shaft which passes through the cover, the vertically-moving head which is guided in its movements over the shaft by the supporting-frame, and the operating-lever, substantially as shown.

2. The combination of the churn and its cover with a double-U-shaped supporting-frame, which is secured rigidly to the cover, the operating-lever, the connecting-rods, vertically-moving head, and the spirally-grooved shaft provided with a flange or collar and to the lower end of which the dasher is secured, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

LUTHER ALISON MILLER.

Witnesses:

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