(No Model.) 2 Sheets—Sheet 1.

LE VERT KIMBALL.

MOTOR FOR CHURNS, &c.

No. 269,426. Patented Dec. 19, 1882.

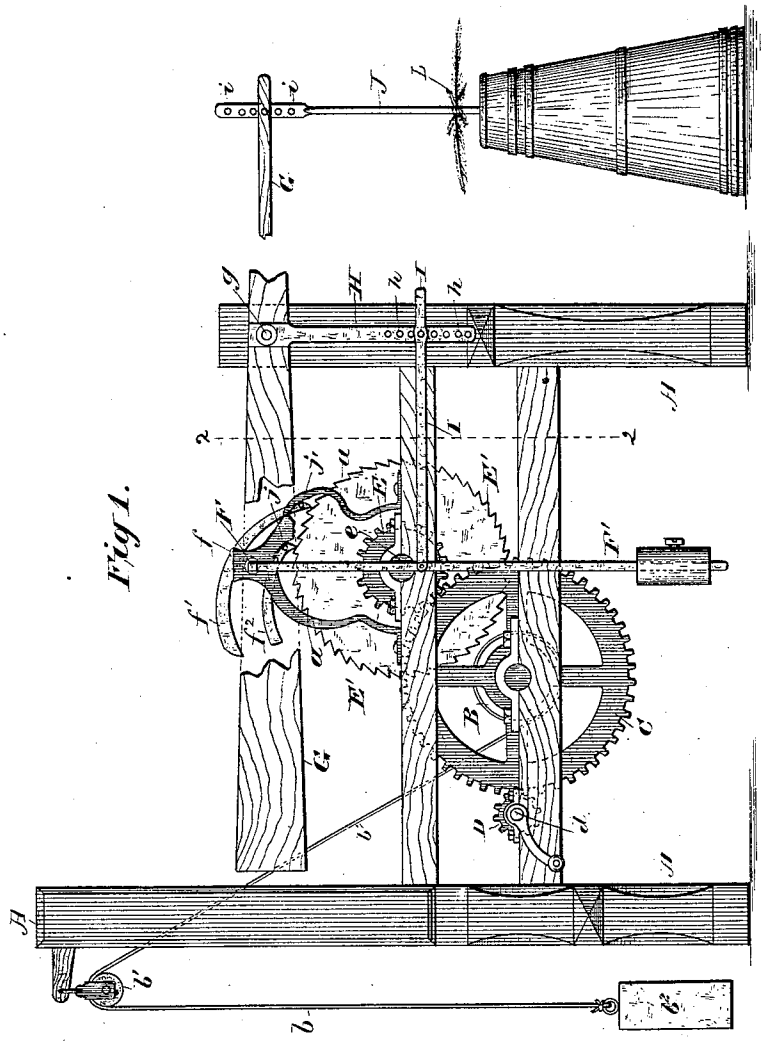


Fig. 1.

Attest:
Geo. T. Smallwood Jr.
L. M. Hopkins.

Inventor:
LeVert Kimball
By. Knight Bros
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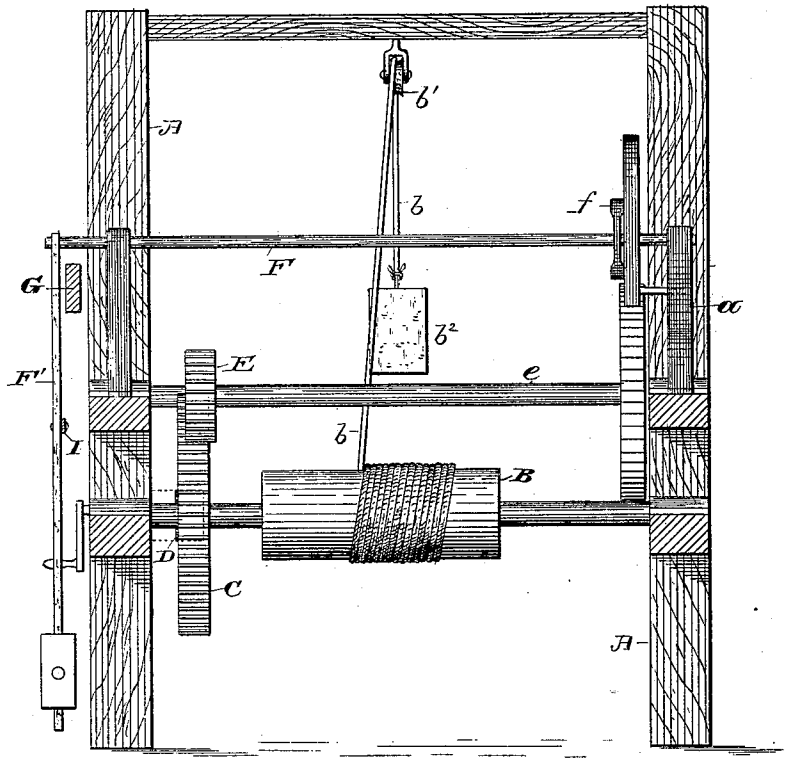
(No Model.) 2 Sheets—Sheet 2.

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Fig 2.



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UNITED STATES PATENT OFFICE.

LE VERT KIMBALL, OF EGYPT, MISSISSIPPI.

MOTOR FOR CHURNS, &c.

SPECIFICATION forming part of Letters Patent No. 269,426, dated December 19, 1882.

Application filed September 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, LE VERT KIMBALL, a citizen of the United States, residing at Egypt, in the county of Chickasaw and State of Mississippi, have invented a new and useful Improvement in Motors for Churns, &c., of which the following is a specification.

My invention relates to that class of motors which are actuated by a falling weight, the momentum of which is applied to various useful purposes; and the said invention consists of an improvement upon a churn-motor described and claimed in Letters Patent of Alpheus B. Corby, No. 77,462, granted May 5, 1868, the object of my improvement being to remedy certain serious defects of the said patented machine which render it practically inoperative. When constructed according to the specification of Corby's patent his machine requires a weight of between four hundred and five hundred pounds, and a falling distance for said weight of from eight to ten feet. Under these circumstances the machine may possibly run for four minutes.

The above statements are the result of practical tests with machines constructed according to the terms of the specification, and it will be readily seen that such a machine is practically inoperative. In the said patented machine, also, there is no provision made for adjusting the amount of throw of the dasher, so that it is necessary to operate with a churn full of cream, or else to place a partially-filled churn upon some improvised support, which is a cause of delay and liability to accidents.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of my improved machine. Fig. 2 is a transverse vertical section of the same on line 2 2, Fig. 1.

In the said drawings, A designates the supporting-frame of my machine, which may be of any convenient shape, rectangular, as here shown, or otherwise. Resting at either end in bearings upon the supporting-frame A is a winding-drum, B, carrying at one end a gear-wheel, C, permanently attached to the axis of the drum B. A pinion, D, upon a crank-shaft, *d*, engages with the teeth of the gear-wheel C, and said pinion is arranged to be thrown out of gear with the wheel C by sliding the crank-shaft in its bearings, as indicated in dotted lines in Fig. 2.

A gear-wheel, E, is mounted on a shaft, *e*, extending transversely of the frame, and having bearings thereon. The teeth of this wheel mesh with those of the wheel C, and the said wheel E is turned by the wheel C.

On the transverse shaft F is a link, *f*, carrying two pawls, $f' f^2$, which engage with the teeth of the ratchet-wheel E′, also keyed to shaft *e*. These pawls are each formed with one heavy end, which raises the point as it is released from the teeth of the ratchet-wheel E′. Instead of springs and guide-pieces attached thereto, as in the Corby machine, I simply use the pins *j j′*, inserted in the points of the pawls $f' f^2$ and sliding in the scroll *a* of the frame A. Thus I increase the durability of my machine and lessen the amount of power required to wind it up, the springs being liable to break and exerting much frictional resistance.

Depending from the shaft F is a weighted pendulum, F′. A working-beam, G, is pivoted about midway of its length upon a transverse shaft, *g*, the ends of which have bearings in the forward upright pieces of the frame A. Depending from the working-beam G is a bar, H, provided with a series of holes, *h*, arranged in a vertical series. A transverse bar or link, I, connects the bar H with the pendulum-arm F′, the forward end of said link being secured to the bar H by a pin entering one of the holes *h*. The forward end of the working-beam G is connected to the dasher-rod J of the churn by a pin entering one of the vertical series of holes, *i*, in said dasher-rod.

A rope, *b*, passes around the periphery of the drum B, over a pulley, *b′*, supported by an upright at the rear end of the frame, and at its free end carries a weight, b^2.

To keep off flies and insects from the mouth of the churn while in operation, I bore gimlet-holes in the dasher-staff at proper height, and insert therein a bunch of feathers, L, which in the reciprocating movement of the dasher brushes and frightens away the insects.

The operation of my invention is as follows: The crank-shaft *d* is turned, and through the medium of pinion D and gear-wheel C the cord *b* is wound around the drum B and the

weight b^2 is raised. The crank-shaft d is moved longitudinally in its bearings, throwing the pinion D out of gear with the wheel C. The weight b^2 now begins to descend, revolving the drum B, with its wheel C. Said wheel C moves the wheel E, the latter actuates the pawls f' f^2, which actuate the shaft F through the link f, and the shaft F oscillates the pendulum F'. From this pendulum F', through the medium of the link I, bar H, and working-beam G, the rod J of the churn is reciprocated. As the result of this invention, instead of between four hundred and five hundred pounds weight being required, I am enabled to turn my machine with about one hundred and fifty pounds weight, with a fall of ten feet, for fully half an hour, thus rendering the machine practicable and useful.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a motor for churns, the frame A, provided with the scrolls a, and carrying the drum B, with its attached cord b and weight b', the gear-wheel C, shaft e, carrying pinion E and ratchet-wheel E', and the shaft F, carrying the pendulum F', and link f, carrying weighted pawls f' f^2, in combination with the working-beam G, pivoted to the frame A, the pendent bar H, attached to said working-beam, and the link I, connecting the pendulum with the pendent bar, substantially as and for the purposes set forth.

LE VERT KIMBALL.

Witnesses:
B. C. SIMS,
DICK MOTLOW.