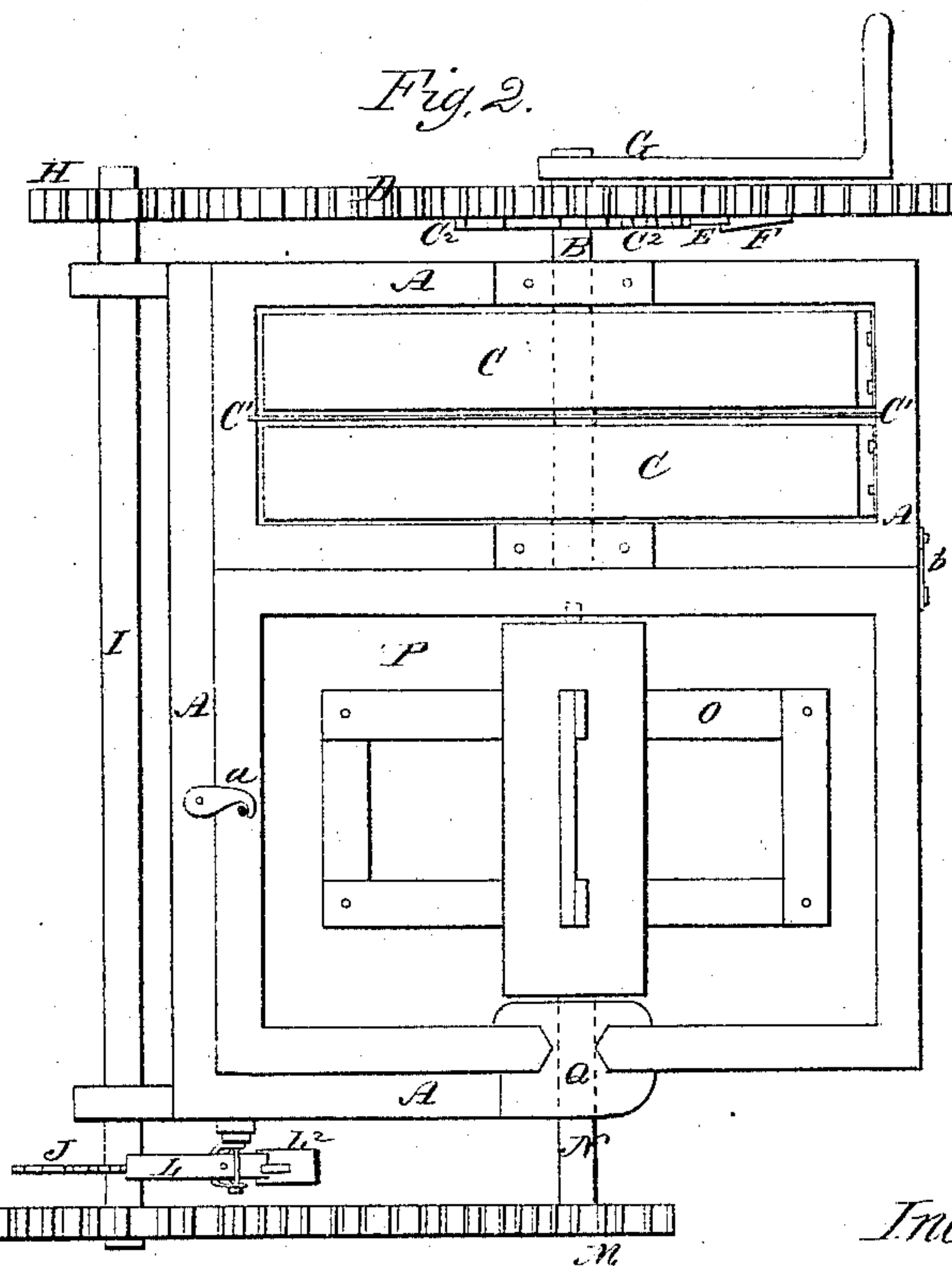
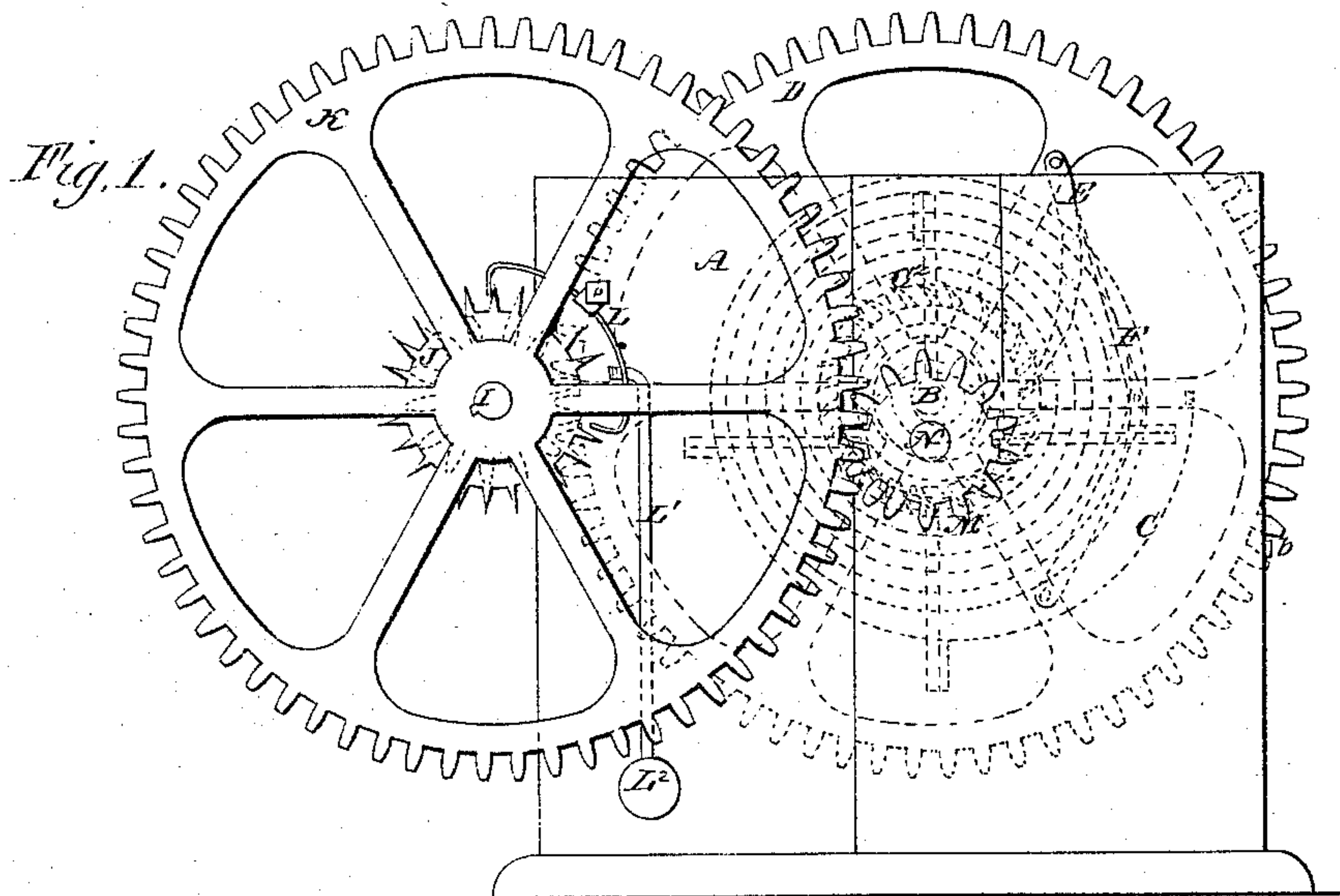


W. BEATON.
CHURN.

No. 44,505.

Patented Oct. 4, 1864.



Witnesses.

Henry Morris
L. G. Pliff

Inventor.

William Beaton.
per *Mum J.*
attys

UNITED STATES PATENT OFFICE.

WILLIAM BEATON, OF GRINNELL, IOWA.

IMPROVED CHURN.

Specification forming part of Letters Patent No. 44,505, dated October 4, 1864.

To all whom it may concern:

Be it known that I, WILLIAM BEATON, of Grinnell, in the county of Poweshiek and State of Iowa, have invented a new and useful Improvement in Churns; 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 make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Fig. 1 is a side sectional elevation of my invention; Fig 2, a plan view of the same.

Similar letters of reference indicate like parts.

This invention pertains to that class of churns in which the dasher is put in motion by means of spring-power.

A is a frame made in the manner shown or in any other convenient form.

Upon one side of the frame A, I mount a horizontal shaft, B, around which I wind one or more coils of springs, C, one end of said springs being attached to the frame A, while the other end is fastened to the shaft B. Any number of springs C may be employed according to the degree of power which it is desired to apply to the churn. When more than one spring is employed, a dividing-disk or partition, C', should be placed between the springs.

Upon the outer end of the shaft B there is secured a ratchet-wheel, C², and outside of wheel C², arranged to turn loosely upon shaft B, is a driving cog-wheel, D. Pivoted to this wheel D is a ratchet, E, pressed by a spring, F, which is also attached to wheel D. The extremity of shaft A is squared to receive a crank, G, and the springs are wound up by turning the crank-shaft backward, during which winding the wheel D remains at rest; but when the winding ceases the springs impel the shaft B in a forward direction, giving the same motion to the ratchet-wheel C², into the teeth of which the ratchet E engages, and thus connects the wheel D with the wheel C², thereby imparting motion to said wheel D. The wheel D is so arranged that its teeth will gear with the teeth of a pinion, H, upon one end of a shaft, I, which extends entirely across the frame of the machine, as shown, said shaft I having attached upon the opposite end an escapement-wheel, J, and another cogged driving-wheel, K, the latter being attached to shaft I upon the outside of wheel J, as shown.

Pivoted to the frame A, near the wheel J, is a verge, L, the teeth of which engage the teeth of the escapement-wheel J, and attached to the verge L is a short rod, L', upon the lower end of which is a screw-thread, on which screws an adjustable weight, L². The speed of the movement of the verge may be changed by adjusting the weight L².

The use of the verge and the escapement-wheel is to regulate the motion of the shaft I. The usual method is to employ a pendulum arranged separately from the verge; but it will be observed that I attach an adjustable weight to the rod of the verge itself, and in this manner I obviate the necessity for a separate pendulum and produce a regulating device which is cheap of construction and capable of operating in all ordinary positions of the apparatus without the need of setting it on a level, as required when the pendulum is used. The teeth of the driving-wheel K engage the teeth of the pinion M on the outer end of the shaft N of the churn and dasher O. This dasher is made in the ordinary horizontal paddle-wheel form, and is set in a rectangular churn, box, or vessel, P, as shown. One side of this box is slotted so as to permit the convenient removal or replacing of the dasher and its shaft, the slot being filled up after the insertion of the shaft by the grooved slide-piece Q, as shown. The churn-box P is held in its place near the frame A by the buttons a b, on turning which the box P may be removed from the frame A for cleaning, &c.

I do not claim, broadly, the driving of churn-dashers by springs; but,

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

1. The employment of an adjustable regulating rod, and weight in combination with the verge L, as and for the purpose herein shown and described.

2. The arrangement of one or more springs C C, shaft B, wheel D, with attached spring-ratchet E F, shaft I, escapement-wheel J, verge L, and wheel K, with the churn P and dasher O, in the manner and for the purpose herein shown and described.

WILLIAM BEATON.

Witnesses:

CHAS. H. SPENCER,
ISRAEL S. SPENCER.