(No Model.) 2 Sheets—Sheet 1.

J. B. SNIDER.

CHURN POWER.

No. 284,769. Patented Sept. 11, 1883.

Fig. 1.

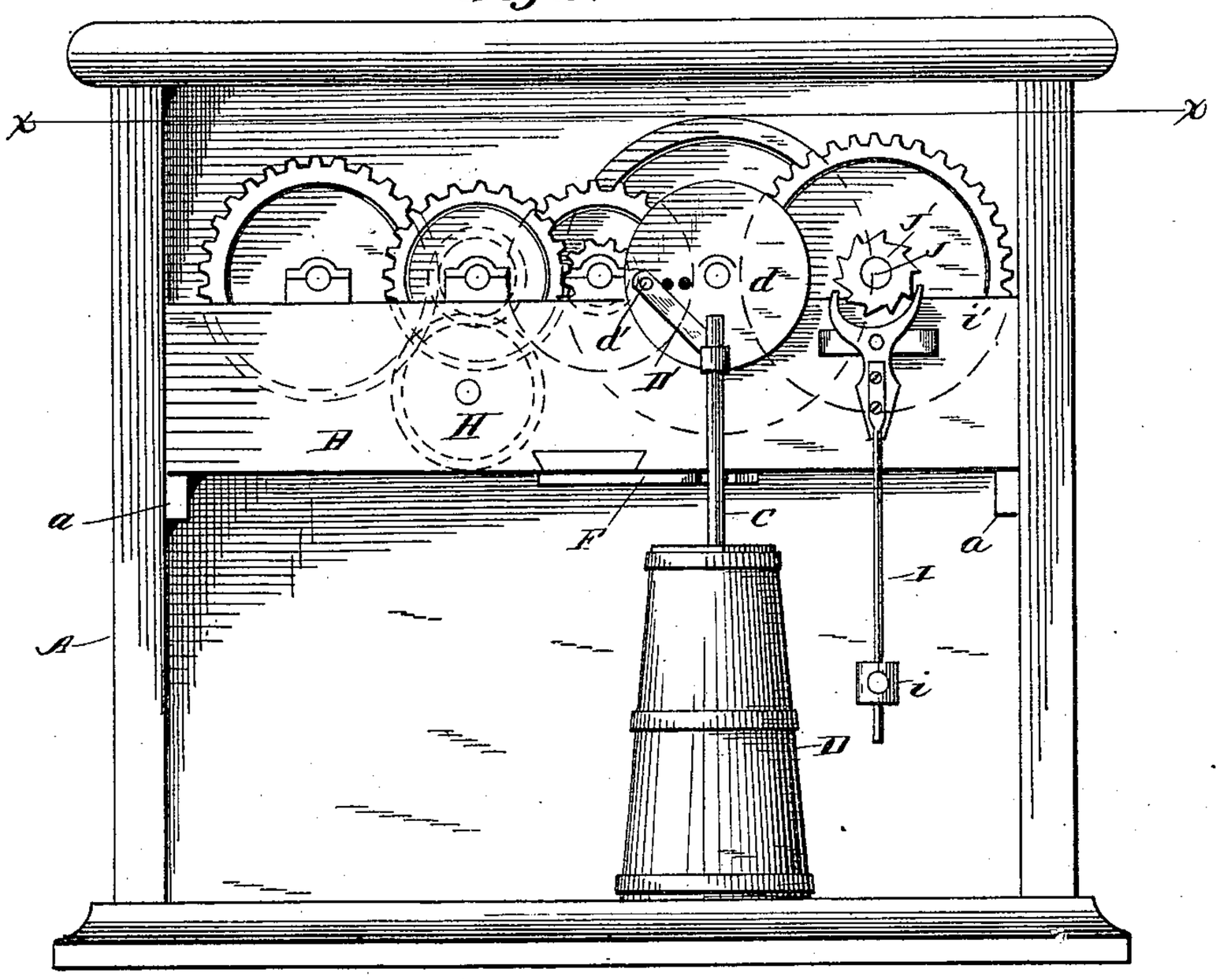
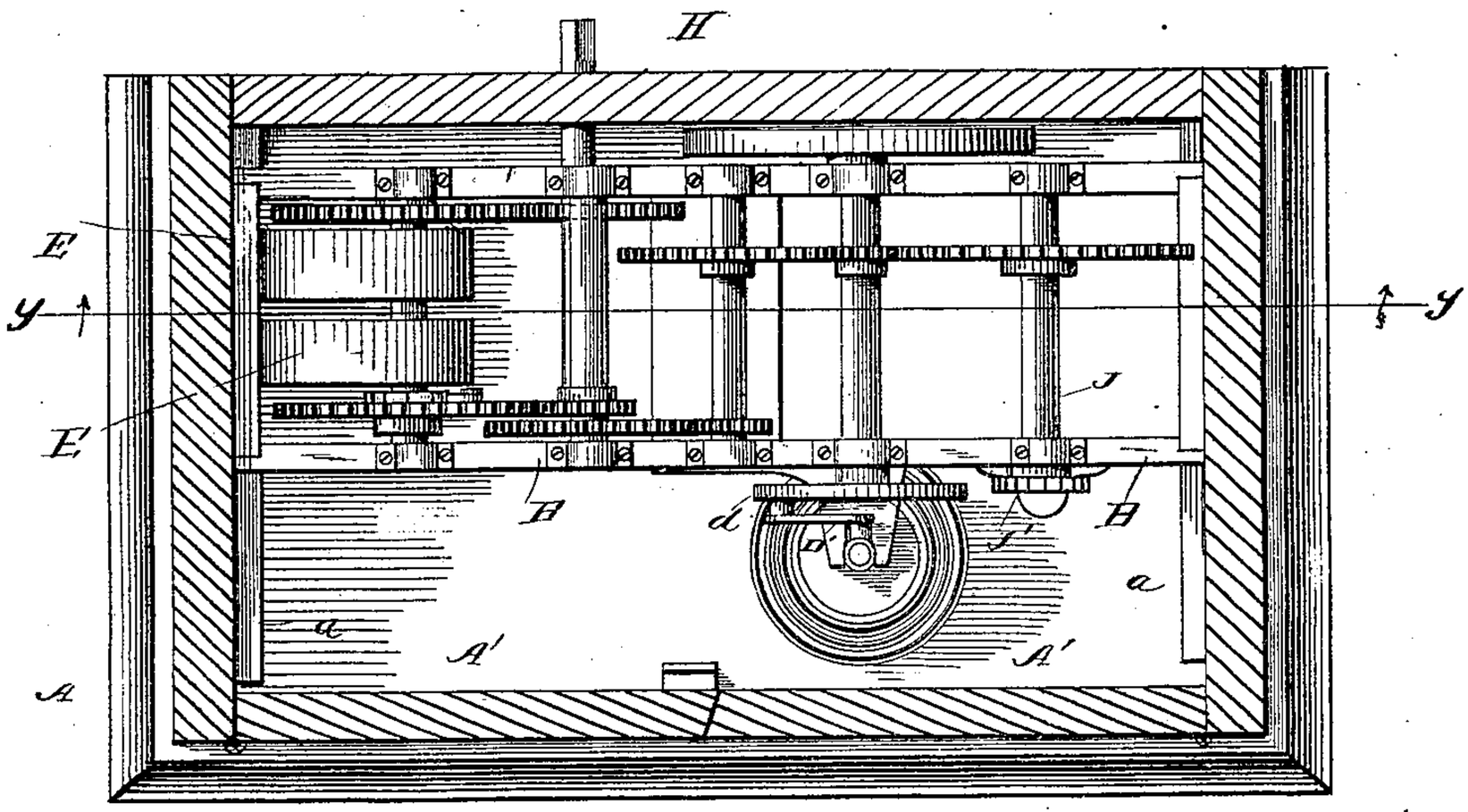


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

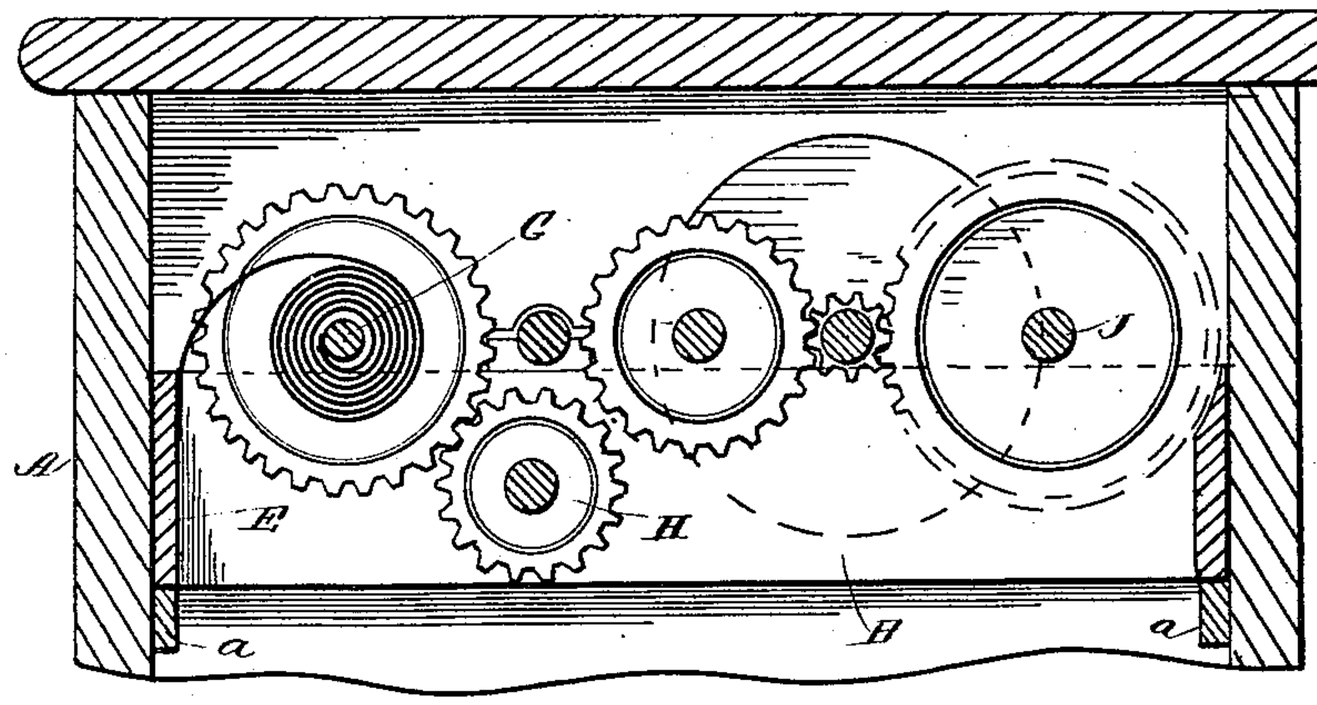


Fig. 4.

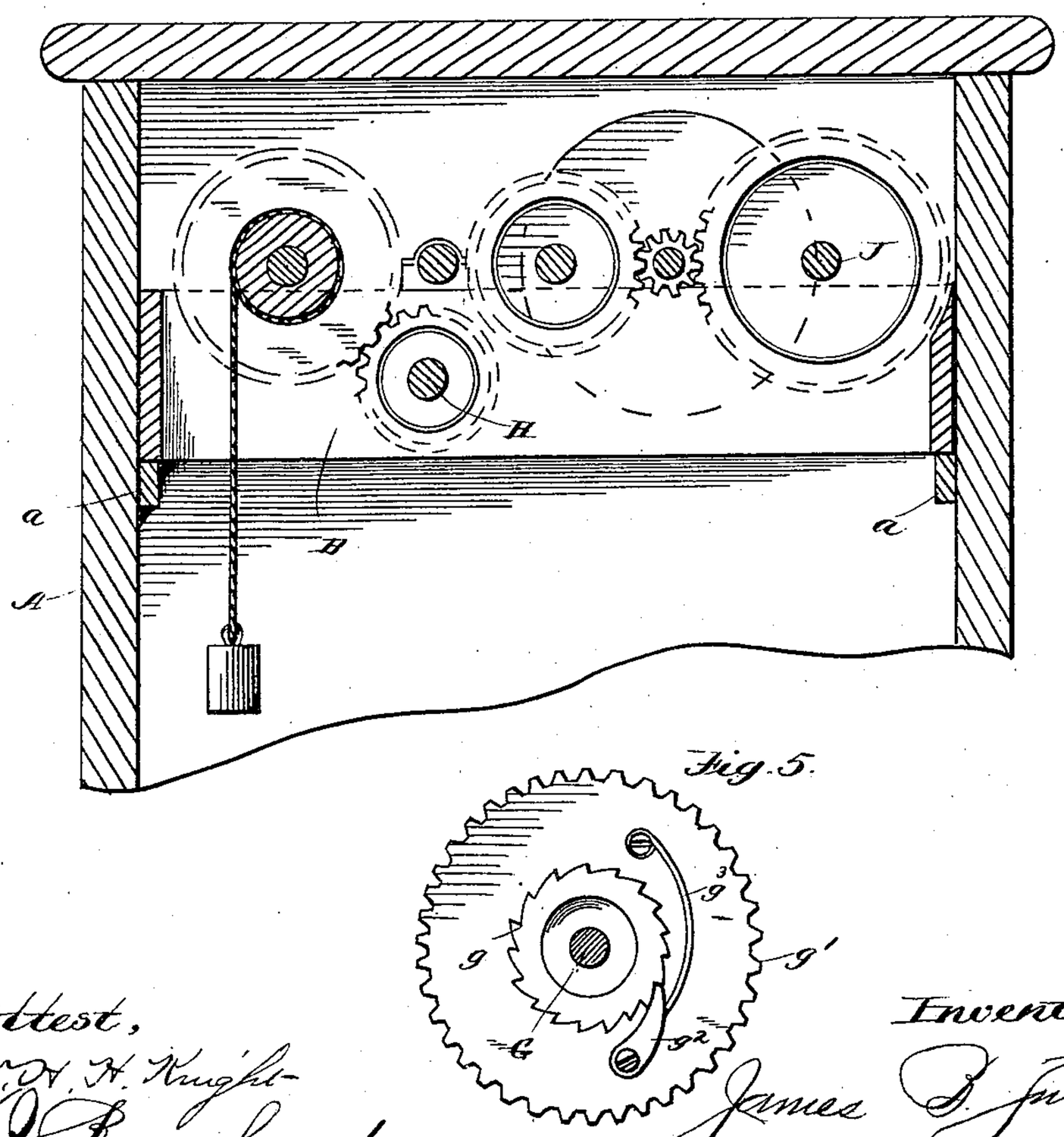
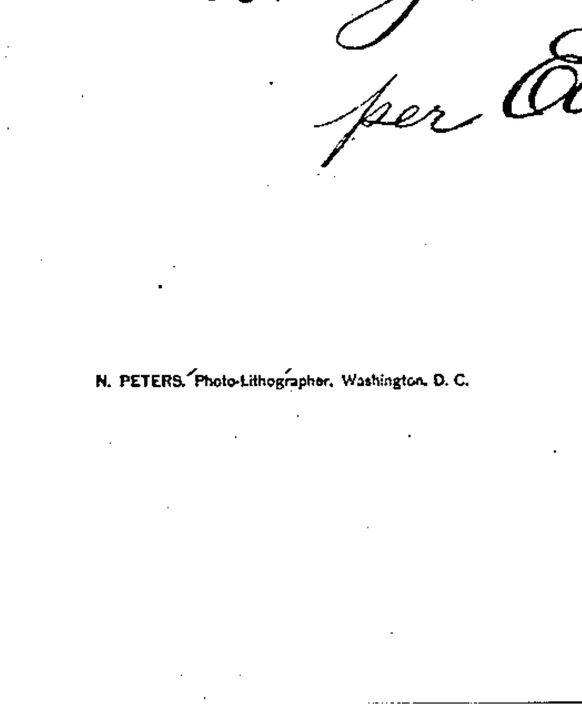


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES B. SNIDER, OF PICKARD'S MILLS, INDIANA.

CHURN-POWER.

SPECIFICATION forming part of Letters Patent No. 284,769, dated September 11, 1883.

Application filed April 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. SNIDER, a citizen of the United States, residing at Pickard's Mills, in the county of Clinton and State of Indiana, have invented certain new and useful Improvements in Churn-Powers; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a side view, showing my improved motor adapted for use in connection with a churn. Fig. 2 is a transverse section on the line *x x* of Fig. 1. Fig. 3 is a vertical section on the line *y y* of Fig. 2. Fig. 4 is a similar view of a modification of the same, and Fig. 5 is a detail view.

This invention has relation to improvements in churn motors or powers, having for its object to protect the working parts of the motor from dust or dirt, which would otherwise accumulate and clog up the machinery; to give a reciprocating motion to the dasher-staff of a churn, and to govern the speed of said dasher; and the invention consists in the combination and arrangement of parts, substantially as hereinafter more fully set forth and claimed.

Referring to the drawings, in which similar letters of reference denote like parts, A represents a case or receptacle, having hinged doors A′ and cleats *a a*, the latter being secured to the side walls of said receptacle, upon which a frame, B, is adapted to slide. By means of this casing the working parts of the motor are inclosed and protected from dust or dirt clogging up the bearings of the gear-wheels.

The dasher C of the churn D is given a reciprocating motion by means of a link or pitman, D′, connected to a crank-wheel, *d*, which receives motion by the recoil of springs E E through a train of gearing, substantially such as shown. The dasher-staff is guided by a pivoted and swinging arm, F, having a slot through which the staff passes. The stroke of the dasher may be lengthened or shortened by means of apertures in the crank-wheel *d*, in which is inserted a crank-pin, *d′*.

The springs E E are wound upon their shaft G from the outside of the casing by means of a geared shaft, H, preferably placed below the plane of that of the series of the shafts journaled in the frame, and extending through an aperture in the walls of the casing, and having its ends squared off to receive a key or crank for giving a rotary motion thereto, which motion is communicated to the shaft G, thereby winding up the springs. To prevent the backward motion occasioned by the winding up of the springs being communicated to the gearing, I rigidly secure to the shaft G a ratchet, *g*, and a gear-wheel, *g′*, the latter being loosely keyed thereon, said gear-wheel having pivoted to one of its sides a pawl, g^2, upon one end of which a spring, g^3, is adapted to bear to hold the pawl in engagement with the teeth of the ratchet, the other end of said spring being secured to the gear-wheel, as clearly seen in Fig. 5 of the drawings. It will be seen that when the springs are being wound up the pawl will slip over the teeth of the ratchet, and when the shaft G is acted upon by the recoil action of the springs, the ratchet will be carried around with the said shaft, and the pawl having engagement therewith will communicate said rotary motion to the gear-wheel *g′*, from whence the train of gearing is set in motion.

The rapidity of the stroke of the dasher is governed by a pendulum, I, having a weight, *i*, adjustable up or down on the rod, said pendulum being provided at its upper end with a pallet, *i′*, which is adapted to engage with a pallet-wheel, J′, of the shaft J. By raising or lowering the weight on the pendulum-rod the rapidity of the stroke of the dasher is increased or diminished.

Modifications in details of construction can be made without departing from the spirit or sacrificing the advantages of my invention—as, for instance, a cord and weight, as shown in Fig. 4 of the drawings, can be used in lieu of the springs, and a sliding door be substituted for the hinged folding doors.

I claim and desire to secure by Letters Patent—

1. The horizontal frame and the train of gearing suitably mounted thereon, in combination with a pendulum, a crank-wheel, pitman, dasher-staff, churn-receptacle, and a

swinging slotted and guiding arm for the dasher-staff, as and for the purposes set forth.

2. The combination of the train of gearing suitably supported upon a frame mounted in an elevated position, with a casing and means for guiding and operating the dasher-staff of a churn, all of the hereinbefore-described devices being inclosed within a casing having one or more doors, substantially as shown and described.

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

JAMES B. SNIDER.

Witnesses:

JACOB HINKLE,

JOAB W. GOAR.