

E. HOAG.
Churn Power.

No. 40,751.

Patented Dec. 1, 1863.

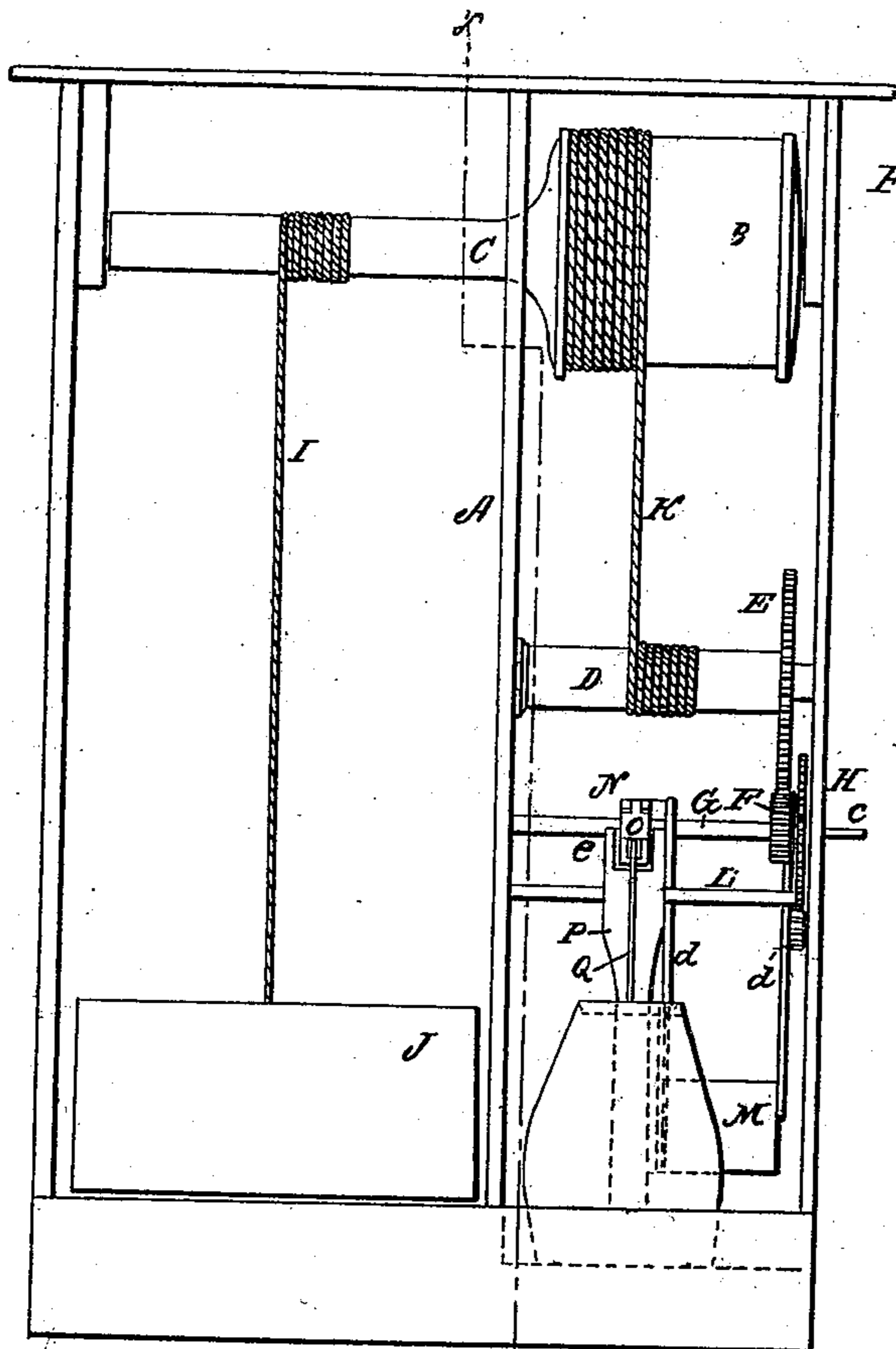


Fig. 2.

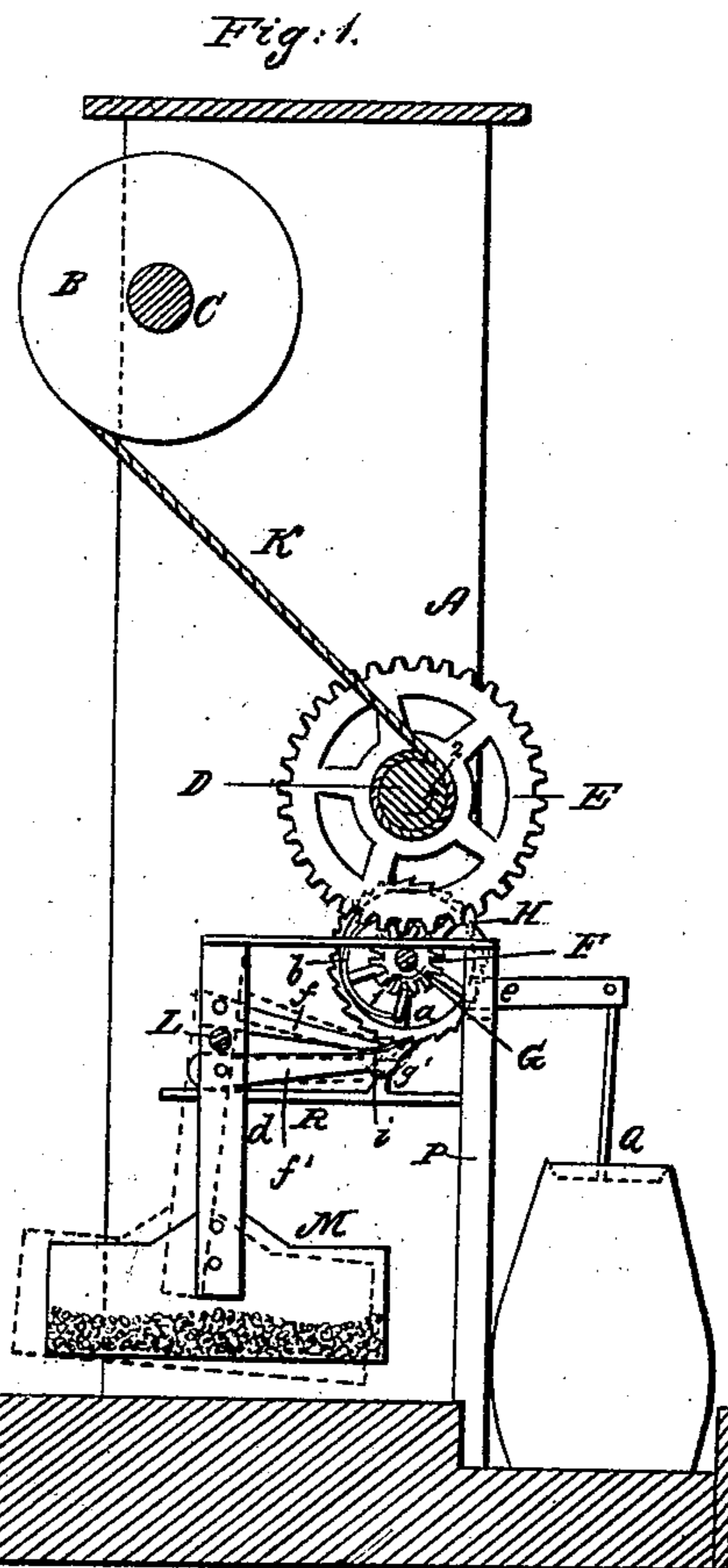


Fig. 1.

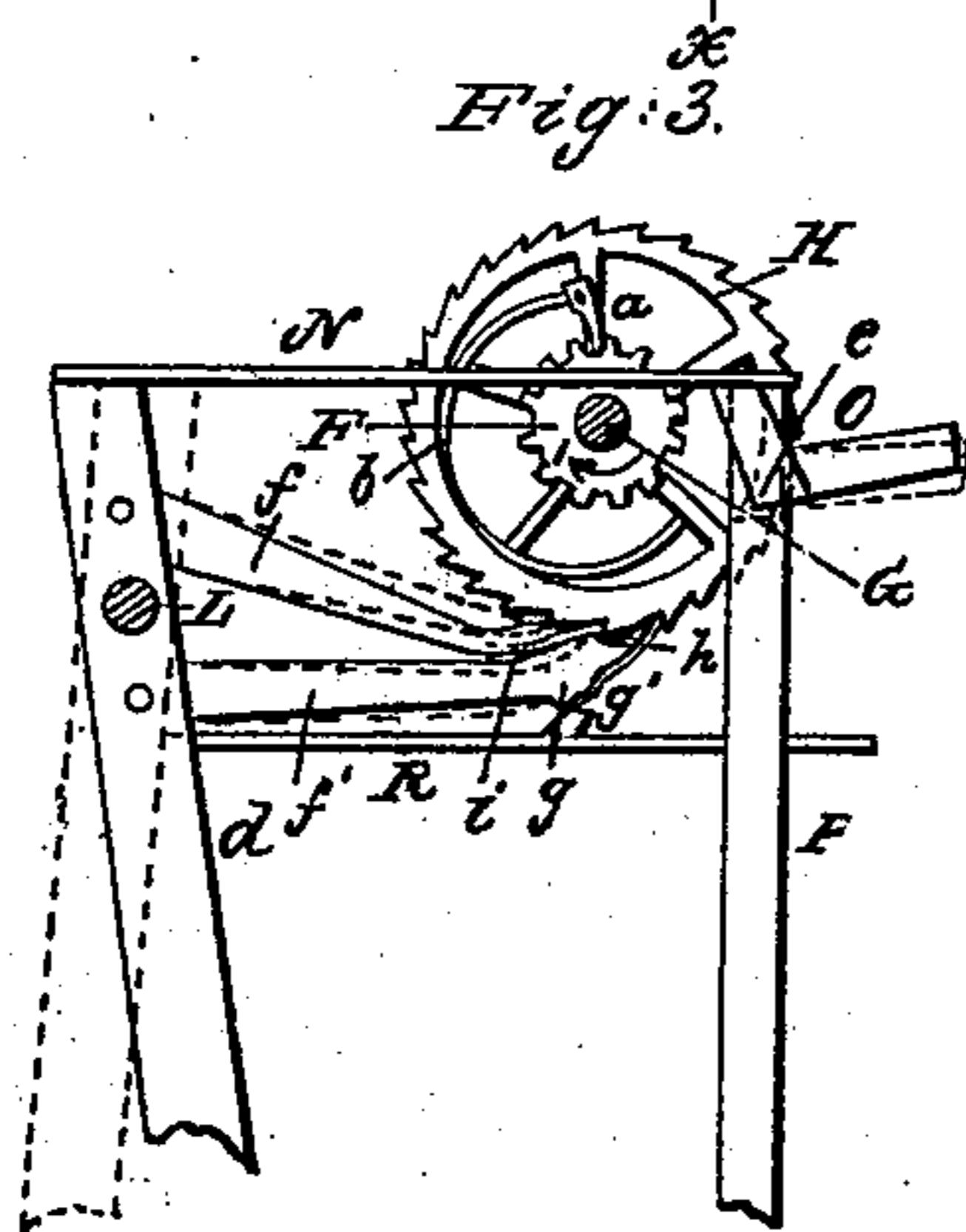


Fig. 3.

Witnesses:

J. W. Coombs.
Geo. W. Reed

Inventor.

E. Hoag
per Mum & Co.
attorneys.

UNITED STATES PATENT OFFICE.

ELIHU HOAG, OF RENSSELAERVILLE, NEW YORK.

IMPROVEMENT IN CHURN-POWERS.

Specification forming part of Letters Patent No. **40,751**, dated December 1, 1863.

To all whom it may concern:

Be it known that I, ELIHU HOAG, of Rensselaerville, in the county of Albany and State of New York, have invented a new and improved Churn-Power; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *xx*, Fig. 2; Fig. 2, a front view of the same; Fig. 3, an enlarged detached view of the escapement pertaining to the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved churn-power of that class in which a weight or spring is used as a motor.

The object of the invention is to obtain a much simpler device than those previously devised for the purpose, and one which may be economically constructed and be compact or occupy but a limited space.

The invention consists in the manner of applying the power to the churn-dash, which is of the reciprocating kind, whereby the use of a crank and other working parts are dispensed with.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a framing, which may be constructed in any proper manner, to support the working parts of the device; and B is a drum, which is placed on a shaft, C, in the upper part of the framing. This drum and its shaft may, if desired, be of wood, and both turned out of a single piece.

D is a shaft, which is placed in the framing A some distance below the drum B, and has a toothed wheel, E, at one end of it. This toothed wheel gears into a pinion, F, on a shaft, G, which is just below the shaft D, and on the shaft G adjoining the pinion F there is placed loosely a 'scape-wheel, H, the latter having a pawl, *a*, attached to it, which is kept engaged with the pinion F by means of a spring, *b*. (See Figs. 1 and 3.) This pawl admits of the pinion F turning the 'scape-wheel when the former is rotating in the direction indicated by the arrow 1. One end

of the shaft G projects through the side of the framing A, and has a square, *c*, formed on it to receive a key.

I is a cord or chain, which is attached to the shaft C, and has a weight, J, suspended to it. This weight may be constructed of a box having stones or other substances placed in it so as to increase or diminish the weight as occasion may require. To the drum B there is attached a cord or chain, K, which is also attached to the shaft D.

L is a rock-shaft having two arms, *d d'*, attached to it. These arms project a short distance above the shaft L and extend down at a greater distance below it, and are secured to a box, M, which may contain a greater or less quantity of stones or other substances to give it the requisite weight. To the upper end of one of these arms, *d*, a rod, N, is attached, the front end of which is connected to the upper end of a bent lever, O, the fulcrum *e* of which is in the upper end of an upright, P. The other end of the lever O is connected to the churn-dash Q. The other arm, *d'*, has two pawls, *f f'*, attached to it, one pawl, *f*, being above the rock-shaft L, and the other, *f'*, below it. (See Figs. 1 and 3.) The lower pawl, *f'*, is rather longer than the upper one, *f*, and the lower one, *f'*, has a semicircular projection, *g*, at its under side near its front end, and has an inclined curved surface, *h*, at its upper side and at its front end, as shown more particularly in Fig. 3. The upper pawl, *f*, has its under surface near its front end curved, as shown at *i*.

From the above description it will be seen that when the weight J is wound up motion will be communicated to the shaft D in the direction indicated by the arrow 2, and motion communicated to the shaft G from D through the medium of the gearing EF. The scape-wheel H acts alternately against the two pawls *f f'* and communicates from the rotating shaft G a rocking movement to the shaft L, and consequently an oscillating movement to the arms *d d'* and box M, the arm *d* communicating, through the medium of the rod N and bent lever O, an up-and-down movement to the churn-dash Q. The pawl *f'* is thrown in contact with the scape-wheel H, as it approaches it, in consequence of the projection *g* at its under side working over a pro-

jection, g' , on a bar, R, attached to the framing, and the pawl f is thrown in contact with the scape-wheel in consequence of moving over the inclined curved surface h on the upper side of the pawl f' . By this arrangement it will be seen that the power is applied to the churn-dash Q in a very direct manner, cranks are avoided, and the working parts reduced to a small number.

I would remark that a spring might be used as a motor instead of the weight J; but the weight I consider preferable.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

The scape-wheel H, pawls ff' , arms $d d'$, with weight M attached, and rock-shaft L, in connection with the rod N and bent lever O, or their equivalents, all arranged and combined with the gearing and weight or a spring, to operate substantially as and for the purpose herein set forth.

ELIHU HOAG.

Witnesses:

WM. MAGIVING,

W. P. SWEET.