2 Sheets--Sheet 1.

E. BRETTELL & J. LINDSEY.

Motive-Power.

No. 169,233. Patented Oct. 26, 1875.

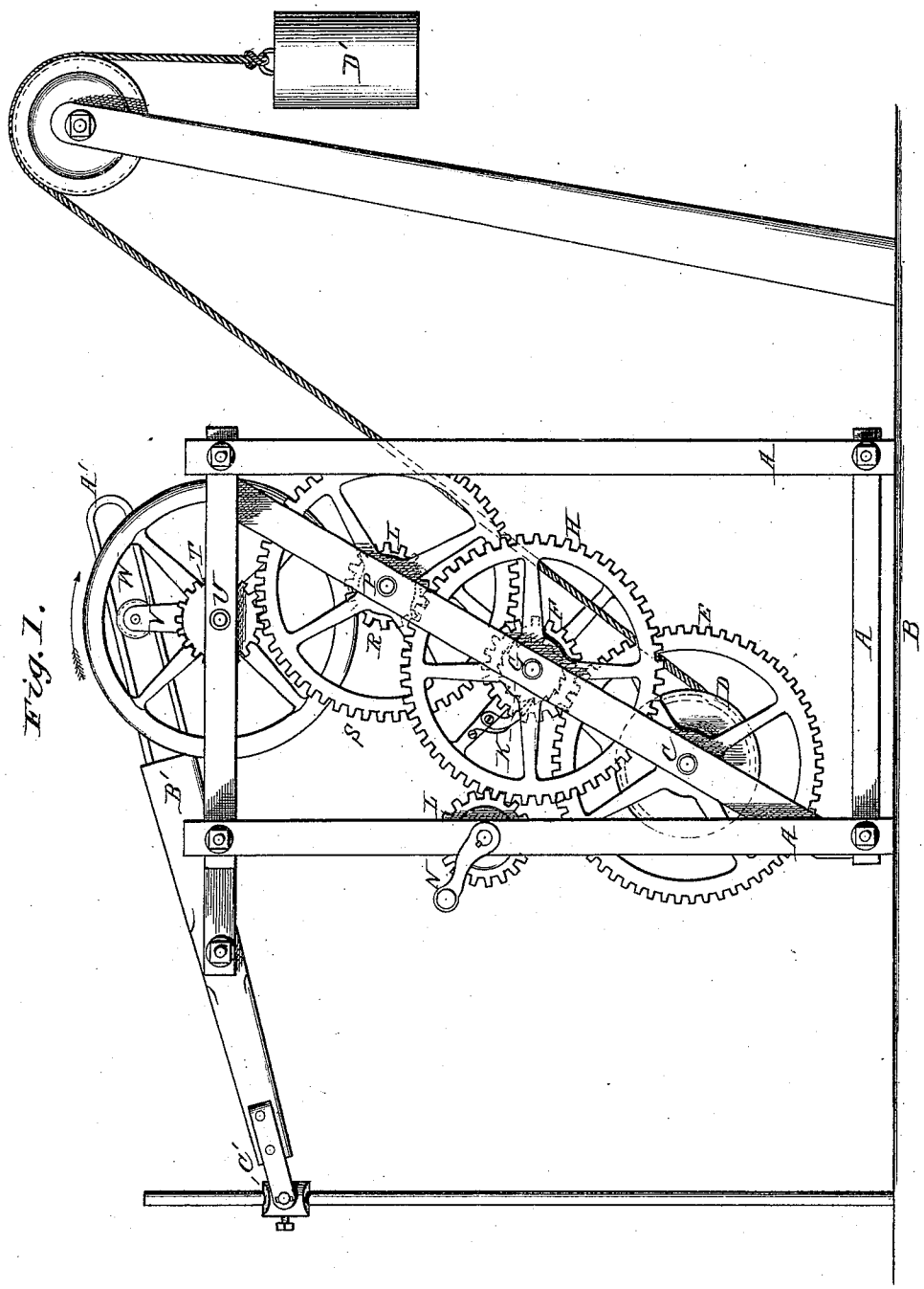

Fig. 1.

Attest:
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2 Sheets--Sheet 2.

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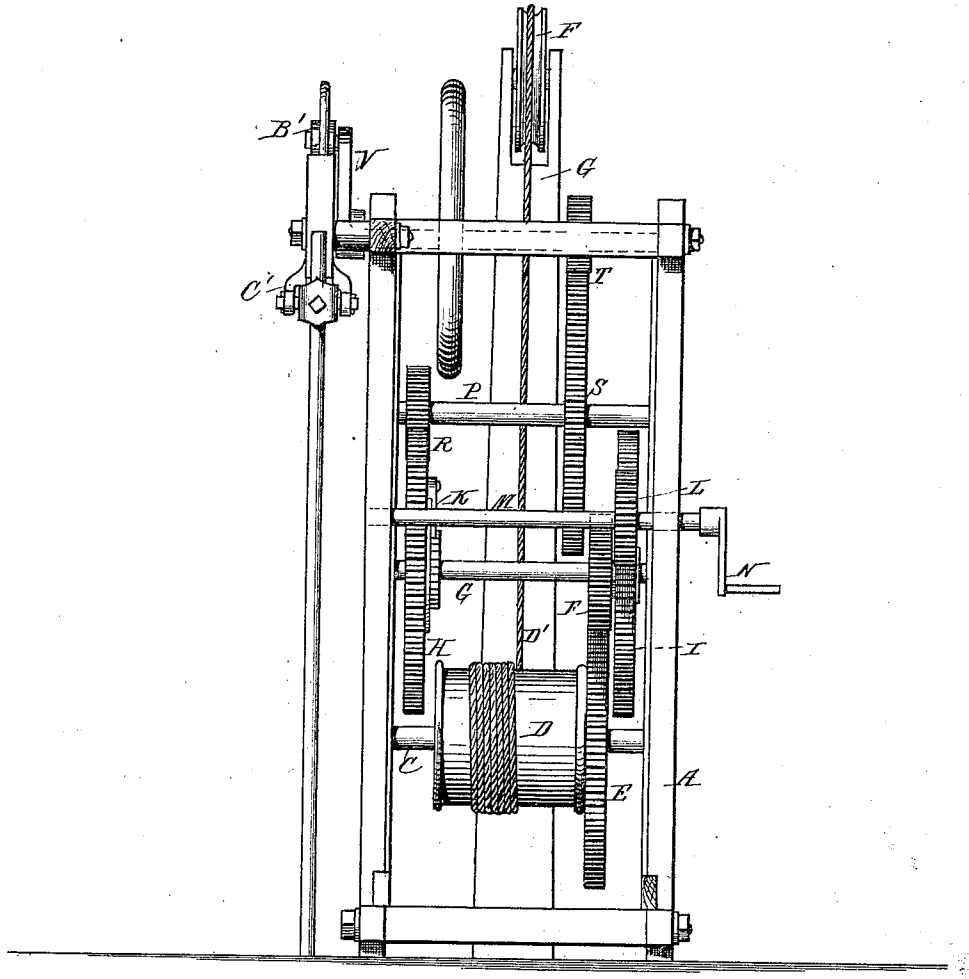
Fig. 2.



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UNITED STATES PATENT OFFICE.

ENOCH BRETTELL AND JAMES LINDSEY, OF EVANSBURG, ASSIGNORS TO GEORGE B. SLATER AND J. N. DUNHAM, OF FREDONIA, AND AMOS PALMER, OF PINE GROVE, PENNSYLVANIA.

IMPROVEMENT IN MOTIVE POWERS.

Specification forming part of Letters Patent No. **169,233**, dated October 26, 1875; application filed October 8, 1875.

To all whom it may concern:

Be it known that we, ENOCH BRETTELL and JAMES LINDSEY, of Evansburg, in the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Motive Power, of which the following is a specification:

This invention relates to certain new and useful improvements upon the invention for which Letters Patent of the United States were granted to George T. Slater September 8, 1874, No. 154,919, for improvements in motive power.

The object of the present invention is to enable the apparatus to be wound up for starting with less exertion than formerly required; to provide a simpler and more effective means for converting the rotary motion of the gear-wheels into the necessary oscillating or reciprocating motion, and to provide for a more convenient arrangement of the weights in respect to the working gearing of the apparatus.

Our invention consists in the combination of a train of multiplying-gearing with a fly-wheel and oscillating lever, for operating the churn-dasher, the whole being constructed and arranged to operate as more fully hereinafter set forth.

In the drawings, Figure 1 represents a side elevation of my apparatus; and Fig. 2 an end view thereof.

The letter A represents the frame-work of the apparatus securely fastened to the ground, or to a base or bed, B, provided for the purpose in any convenient manner. C represents the driving-shaft provided with the usual drum D, and gear-wheel E, which meshes with a pinion, F, on the shaft G. The shaft G carries two gear-wheels, H and I, one of which is secured loosely on said shaft, and operates in conjunction with the usual pawl-and-ratchet device K for carrying it in one direction with said shaft, and allowing it to remain stationary when said shaft is moved in the opposite direction. The said gear-wheel meshes with the remaining driving-gearing of the apparatus, as will be presently explained. The other gear-wheel I is secured tightly upon the shaft G, and meshes with a smaller gear-wheel, L, on the winding-shaft M, which is provided with a crank or key, N, for the purpose of winding. E represents a shaft carrying a pinion, R, which gears with the wheel H and a gear-wheel, S, meshing in a pinion, T, secured to the fly-wheel shaft U, to the front end of which is secured the crank V. On the crank-pin of said crank is journaled a grooved friction-wheel, W, which works in a slotted way, A′, formed on, or attached to, the oscillating lever B′, which is pivoted to the frame A. The other end of said lever carries an oscillating ring or socket, C, by means of which the reciprocating piston-rod may be attached to the same and operated. To the drum D is attached the weight chain or cord D′ at one end, the other end being secured to the weight E. Said cord passes over a ground-pulley, F′, journaled in the slotted end of the standard G, secured firmly to the base of the apparatus at its lower end.

The advantages of my improvement will be apparent. The independent train of winding-gearing enables the apparatus to be wound up at less expense of labor than heretofore, and without interfering with the gearing by which motion is transmitted to the driving-shaft, to the oscillating lever, and churn-dasher. The friction-wheel, working in the slotted way of the oscillating lever, transmits the motion much more effectually and uniformly thereto, and with less loss of power than by means of the sliding block heretofore employed, which is liable to bind and stop the machine; while the new arrangement of the weight in respect to the winding-drum allows the machine to be located in a convenient position to be reached by the operator.

We claim—

The combination of the multiplying-gearing, arranged to operate as described, the fly-wheel T, operated thereby, and the oscillating lever B′, operated by a crank provided with a friction-wheel working in the bent-wire guide A′, the whole constructed and arranged to impart a reciprocating motion to various machinery, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands in the presence of the subscribing witnesses.

ENOCH BRETTELL.
JAMES LINDSEY.

Witnesses:
O. H. HOLLISTER,
S. T. NEILL.