

(No Model.)

2 Sheets—Sheet 1.

G. E. DANLIES.
MOTOR.

No. 280,297.

Patented June 26, 1883.

Fig. 1.

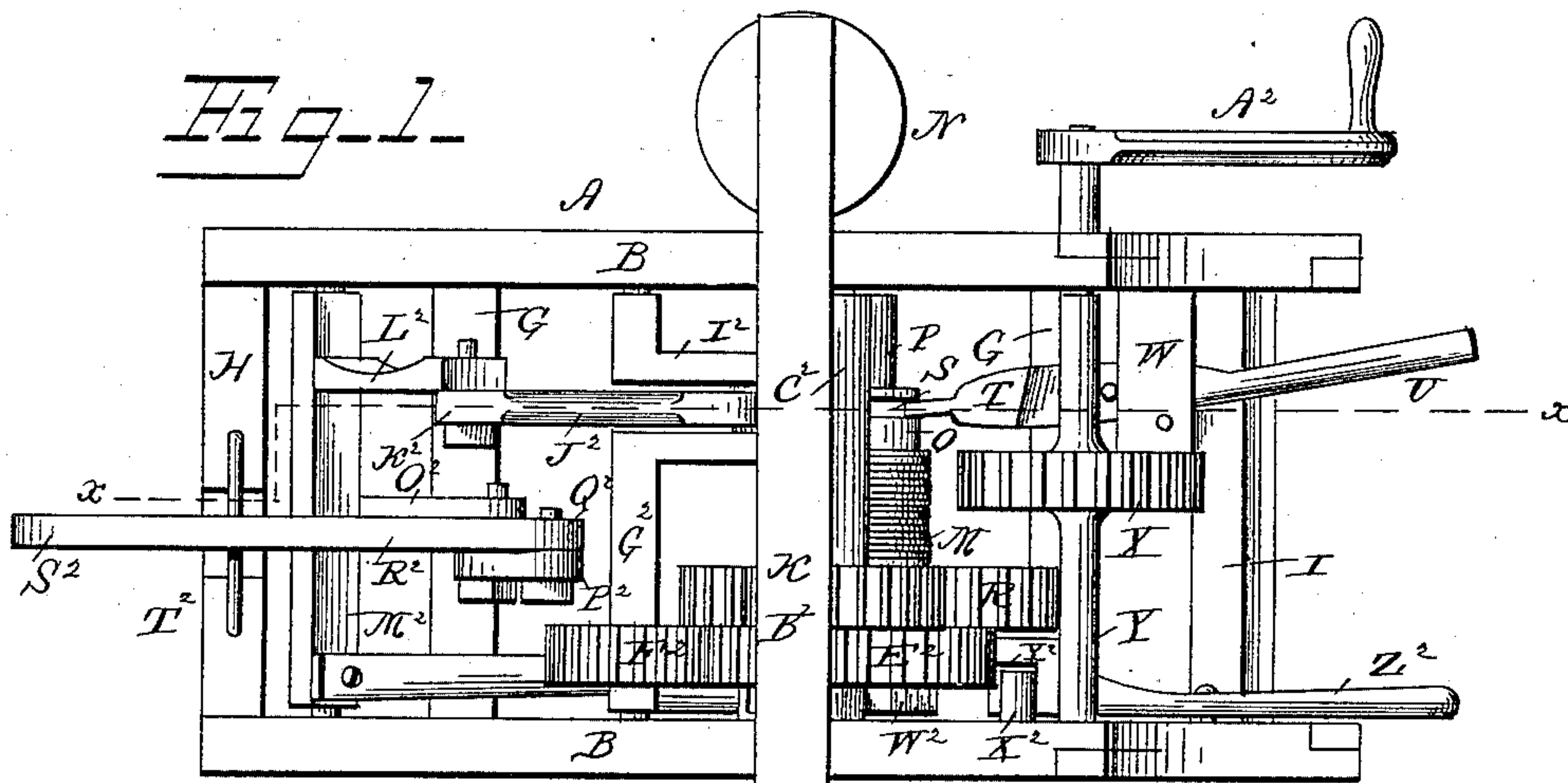


Fig. 2.

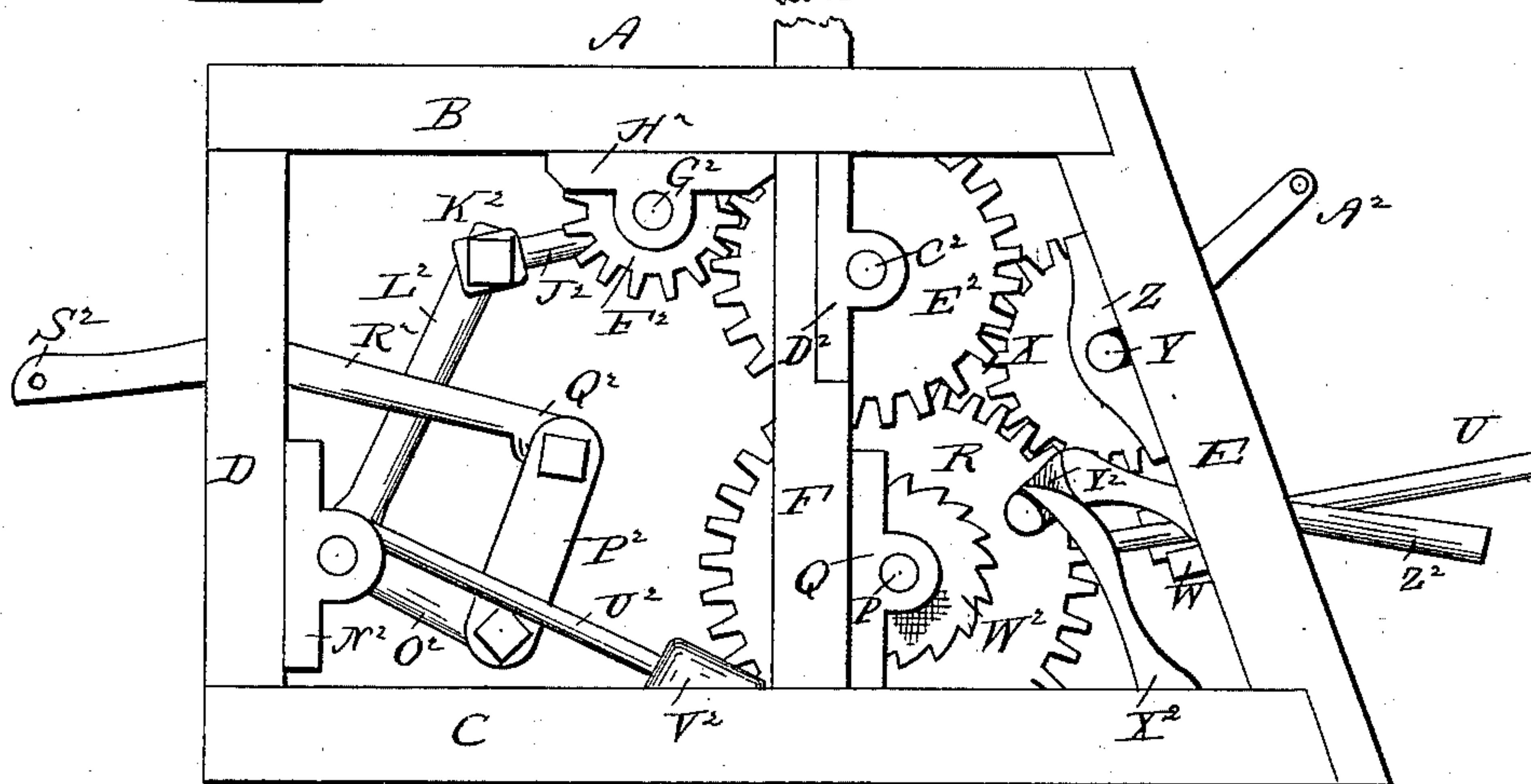
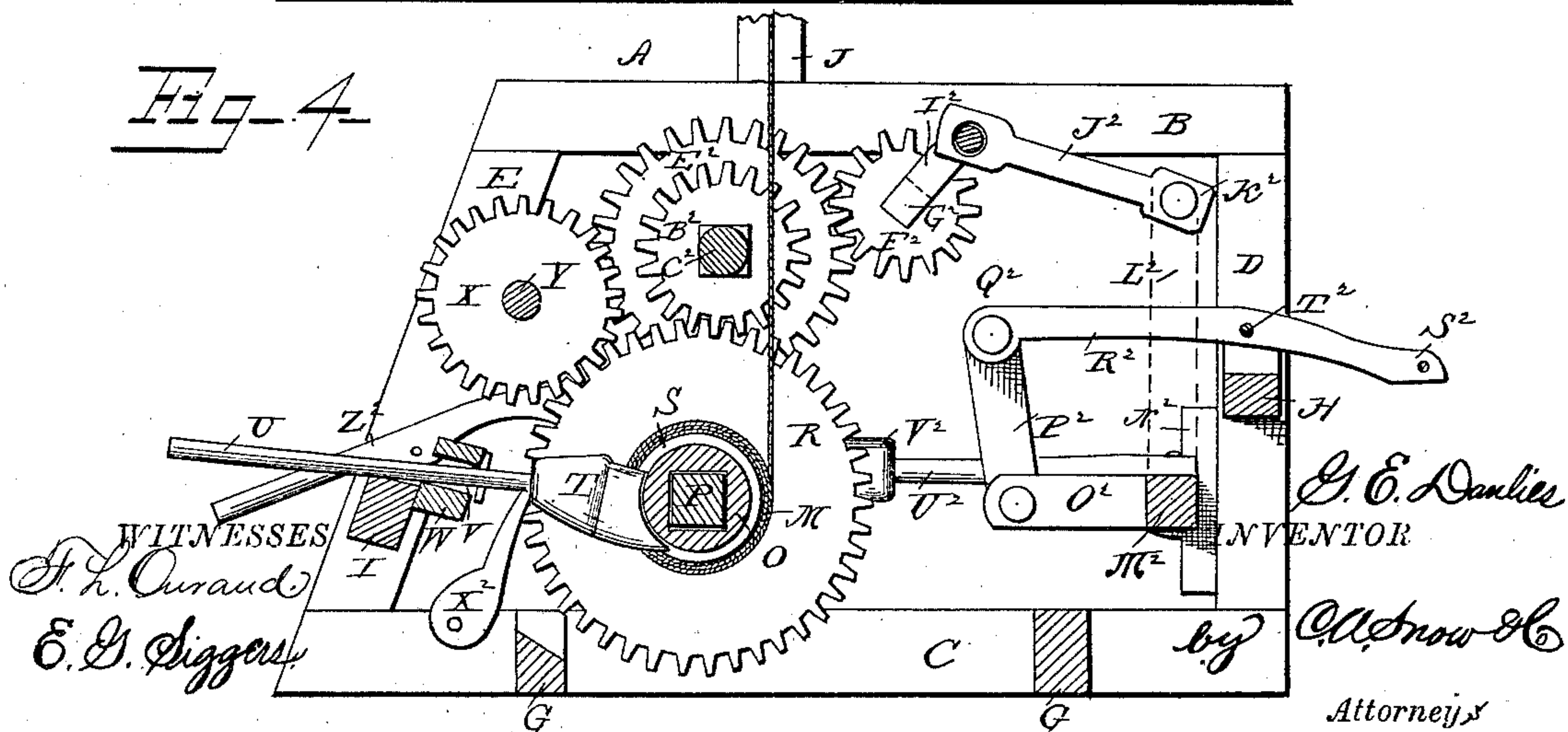
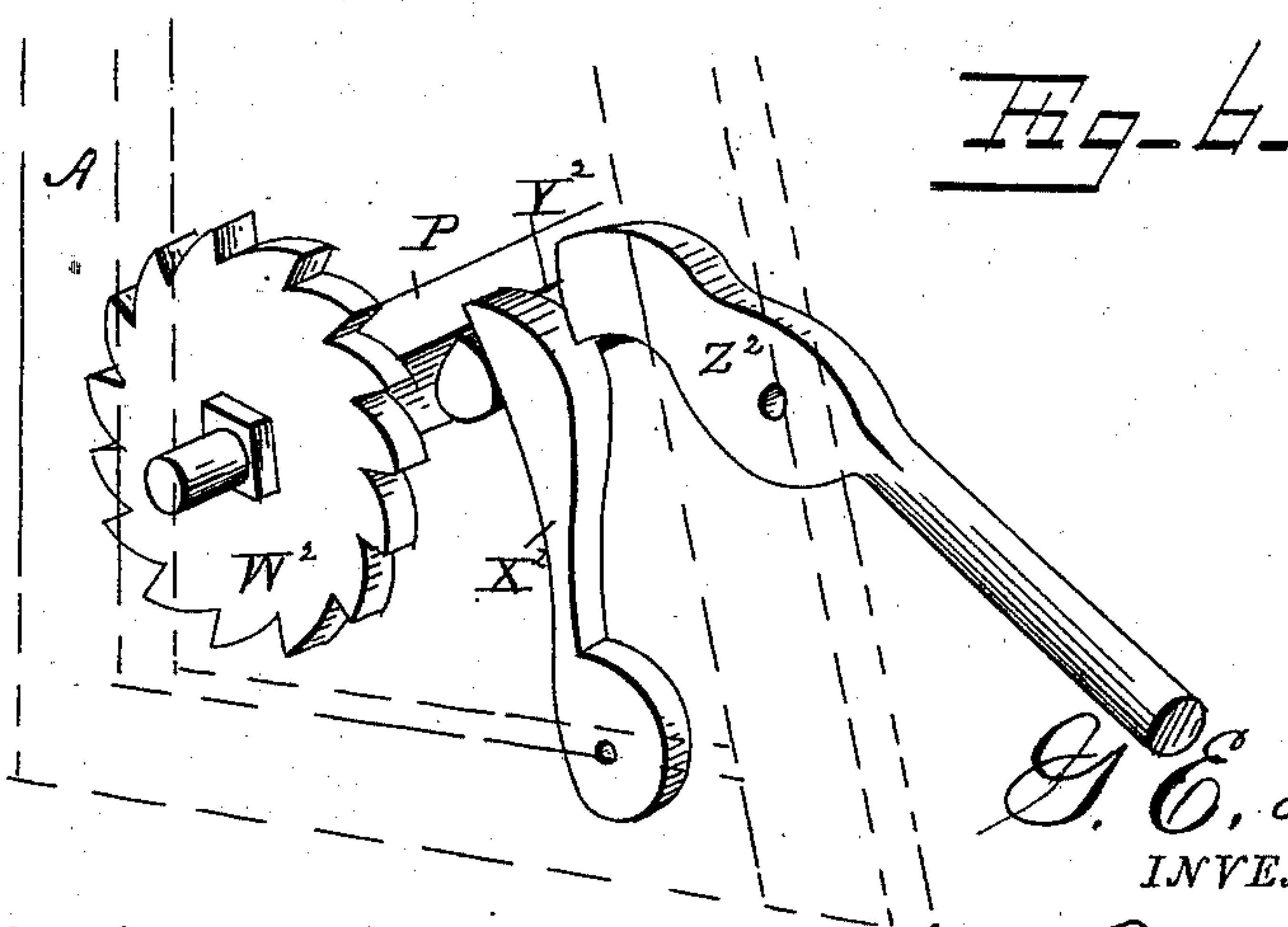


Fig. 4.



2 Sheets—Sheet 2.

Patented June 26, 1883.



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UNITED STATES PATENT OFFICE.

GEORGE E. DANLIES, OF BYRON, ILLINOIS.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 80,297, dated June 26, 1883.

Application filed April 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. DANLIES, a citizen of the United States, residing at Byron, in the county of Ogle and State of Illinois, have invented a new and useful Motor, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to motors for operating pumps, churns, and the like, and its object is to provide a device possessing superior advantages in point of simplicity, power, and general efficiency.

In the drawings, Figure 1 is a top view of my improved motor. Fig. 2 is an end view of the same. Fig. 3 is a side view. Fig. 4 is a vertical longitudinal sectional view of the machine on the line *x x*, Fig. 1. Fig. 5 is a vertical transverse sectional view taken through the drum-shaft and looking toward the front end of the machine. Fig. 6 is a detail view, in perspective, of the ratchet mechanism.

Referring to the drawings, A designates the frame of the motor, which preferably comprises two side sections, each having a longitudinal top and bottom horizontal beam, B C, respectively, upright beams D E, respectively, at the front and rear ends, and an intermediate upright, F, these side sections being connected by transverse bottom beams, G G, and by cross-pieces H I, respectively, at the front and rear ends of the frame.

J J designate two uprights that project above the frame A, and are provided at their top with a cross-piece, K, on which is arranged a pulley, L, over which the operating rope or cable M passes. This rope carries a weight, N, at its free end, while its other end is wound on a drum, O, that is locked in any suitable manner on a transverse shaft, P, having bearings Q Q on the beams F F. The drum carries a gear-wheel, R, at one end, and is provided or formed at its other end with an annular circumferential groove, S, into which is received the bifurcated end T of a lever, U, that has its fulcrum in a slot, V, in a bracket, W, projecting inwardly from one of the beams, E, at the rear end of the frame. By operating this lever the drum can be moved longitudinally on the shaft P to throw its gear-wheel R into engagement with a gear-wheel, X, fixed on a transverse shaft, Y, having bearings Z Z

on the beams E E. This shaft Y has a crank or handle, A², by which it can be turned and intermesh with the gear-wheel R to wind the rope M upon the drum. The lever U is then operated to throw the gear-wheel R out of engagement with the gear X and into engagement with a small gear-wheel, B², fixed on a transverse shaft, C², having bearings D² D² on the beams F F. As the gravity of the weight causes the shaft P to turn, its motion will be thus transmitted to the shaft C², and the latter is provided with a large gear-wheel, E², that meshes with a smaller gear-wheel, F², that is fixed on a transverse crank-shaft, G², having bearings H² H² on the beams B B. On the crank I² of the shaft G² is journaled one end of a pitman, J², that is pivoted at its other end, K², to the end of an arm, L², projecting from a transverse rock-shaft, M², having bearings N² N² on the beams D D at the front end of the motor. The rotary motion of the crank-shaft G² is thus transmitted to operate the rock-shaft M², and the latter is provided with another lateral arm, O², which is connected by a pivoted link-bar, P², with the rear end, Q², of a rock-lever, R². To the front end, S², the plunger of the pump, dasher-staff of the churn, or similar device is to be pivotally connected. This lever is fulcrumed on a cross-rod, T², arranged on the beam H. The rock-shaft M² is provided with a rearwardly-projecting lateral arm, U², having a governing-weight, V², at its end.

To enable the motor to be readily thrown out of and into operation, a ratchet wheel or disk, W², is fixed on the drum-shaft P, and is engaged by a pivoted pawl, X², on the beam C. This pawl is held in a recess, Y², in the head of a lever, Z², that is fulcrumed on one of the beams E, and by operating this lever the pawl can be conveniently thrown into or out of engagement with the ratchet-wheel.

The operation and advantages of my invention are obvious. It is very simple and inexpensive in construction and can be easily governed.

I claim as my invention—

1. The combination of the frame of the device, the rotary shaft P, carrying the sliding drum and gear-wheel R, the weighted operating rope or cable wound on the drum, mech-

anism for sliding the drum and gear-wheel on the shaft, the shaft Y, having gear-wheel X, the shaft C², having the gear mechanism, and mechanism for transmitting the motion of shaft C² to the operating-lever R², as set forth.

2. The combination of the frame of the device, the shaft Y, having gear-wheel X, the rotary shaft P, carrying the sliding drum having the circumferential groove and gear-wheel R, the weighted operating rope or cable wound on the drum, the bracket W, having slot V, the lever U, having its fulcrum in the slot V and engaging the said groove, the shaft C², having gear mechanism, and mechanism for transmitting the motion of the shaft C² to the lever R², as set forth.

3. The combination of the main shaft P, having the gear-wheel R, the shaft C², having the gear mechanism, the crank-shaft G², the rock-shaft M², having the arm L², connected to the said crank-shaft, and provided with the arm O², the operating-lever R², connected to the arm O² of the rock-shaft, and the frame of the device, as set forth.

4. The combination of the rock-shaft M², the operating-lever R², connected thereto, the shaft G², having the crank, and provided with mechanism by which the motion is communicated, the pitman J², and the governor-arm U²,

carrying the weight V² at its free end, and secured to the rock-shaft, as set forth.

5. The combination of the frame of the machine, the main shaft P, carrying the drum and gear-wheel R, and having ratchet mechanism, the weighted operating rope or cable arranged to be wound on the drum, the transmitting-shaft C², having gear mechanism, the crank-shaft G², having the gear-wheel F², the rock-shaft M², having the arms L², O², and U², the pitman J², the operating-lever R², and the connecting-bar P², as set forth.

6. The combination of the frame of the device, the main shaft P, having the sliding drum and gear-wheel R, the operating rope or cable arranged to be wound on the drum and to unwind as the shaft P revolves, the ratchet-disk fixed on the said shaft P, the pawl pivoted on the frame of the machine, and the pawl-lever Z², having the recess Y², in which the pawl is received, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEORGE E. DANLIES.

Witnesses:

F. A. WHEELOCK,
FRANK BICKFORD.