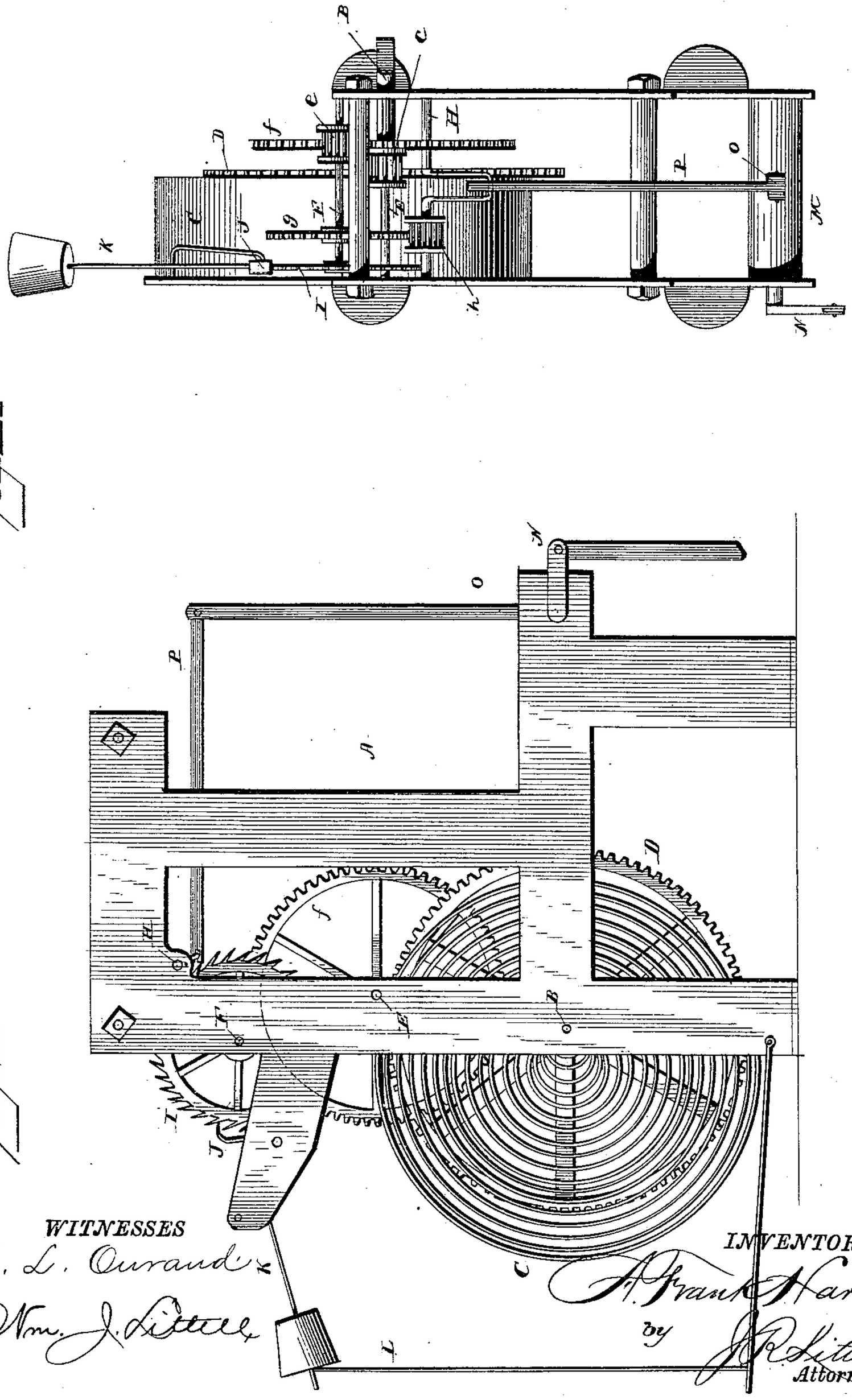
(No Model.) 2 Sheets—Sheet 1.

# A. F. HARRELL.

## MOTOR.

No. 332,517. Patented Dec. 15, 1885.



(No Model.) 2 Sheets—Sheet 2.

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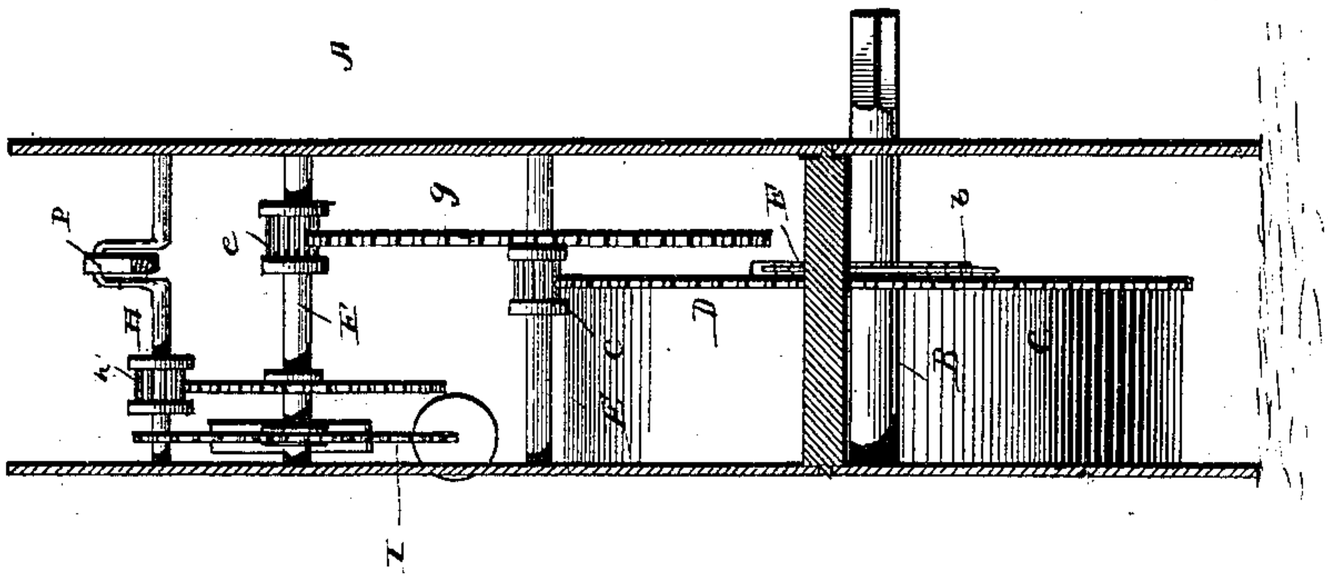


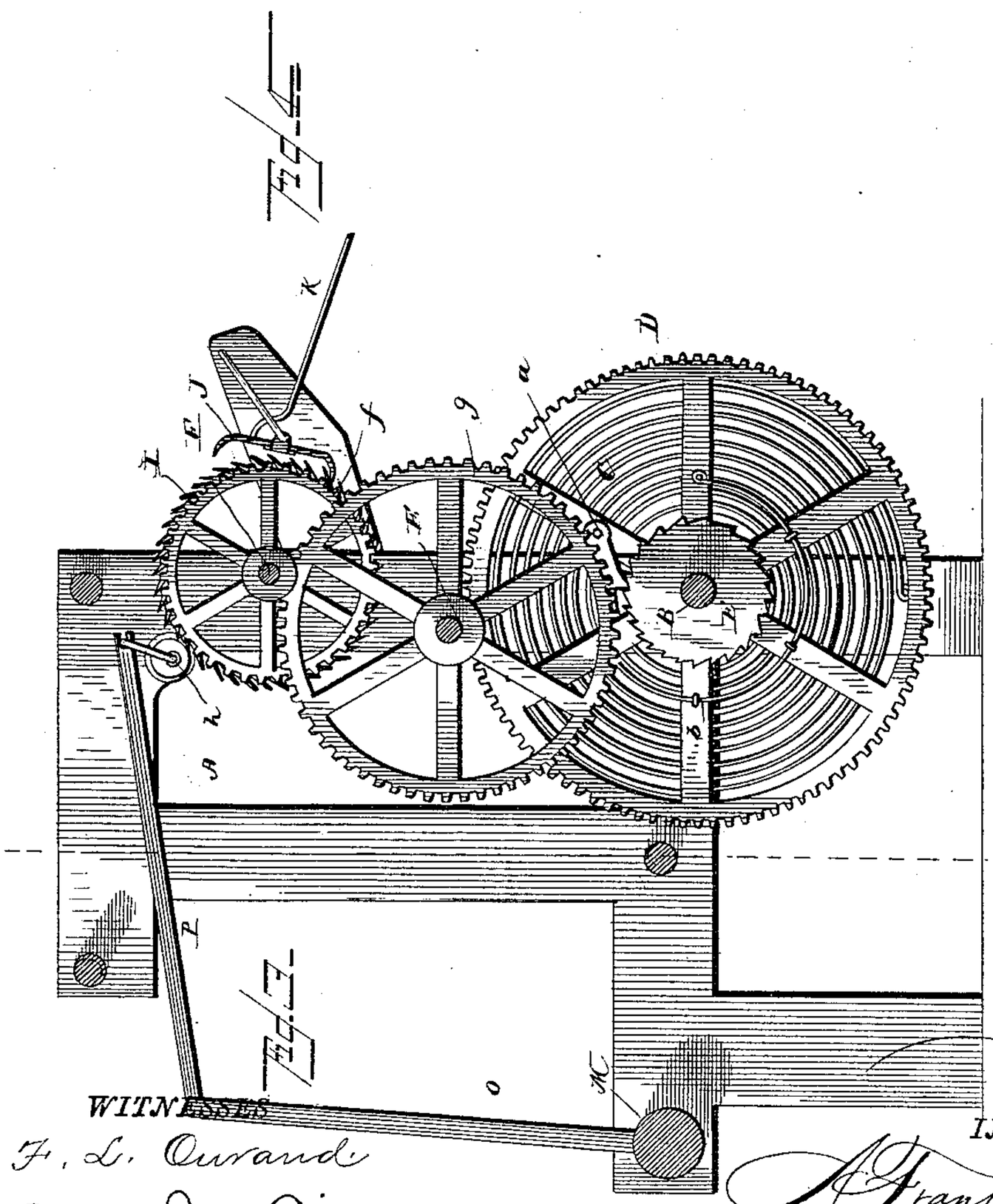

# UNITED STATES PATENT OFFICE.

A. FRANK HARRELL, OF TERRELL, TEXAS, ASSIGNOR OF ONE-HALF TO JOHN L. TERRELL, OF SAME PLACE.

## MOTOR.

SPECIFICATION forming part of Letters Patent No. 332,517, dated December 15, 1885.

Application filed October 17, 1885. Serial No. 180,122. (No model.)

*To all whom it may concern:*

Be it known that I, A. FRANK HARRELL, a citizen of the United States, residing at Terrell, in the county of Kaufman and State of Texas, have invented certain new and useful Improvements in Motors, of which the following is a specification.

My invention relates to motors designed more particularly for running sewing-machines and churns and other light machinery, the object being to provide a device of this character which shall be simple in its construction, effective in its operation, strong and durable, and one that is not likely to get out of order.

With these ends in view the invention consists in the improved construction and combinations of parts, hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a motor embodying my invention. Fig. 2 is a plan view, and Figs. 3 and 4 are sectional views.

Corresponding parts in the several figures are denoted by the same letters of reference.

Referring to the drawings, A represents a supporting-frame, at one end of which is located a shaft, B, having bearing in the sides of the supporting-frame. One end of this shaft B extends beyond the supporting-frame, and is squared, as shown, to receive a key. Upon the shaft B is rigidly secured at one end a steel spring, C, which is secured to the supporting-frame at its other end. Mounted on the shaft B, adjacent to the spring C, is a spur-wheel, D, which is rigidly secured to said shaft. Adjacent to the spur-wheel D, on the shaft B, is a ratchet-wheel, E, and adapted to engage the same is a pawl, *a*, which is held in engagement with the ratchet-wheel by means of a spring, *b*. It will thus be seen that if the shaft B is turned by means of a key, it will be wound upon the shaft, and that its unwinding will be prevented by the ratchet-wheel and pawl which engages therewith. The pawl is pivoted to the wheel D, so that when the shaft turns by the force of the spring the ratchet-wheel turns, and thereby imparts motion to the spur-wheel D.

E represents a shaft, which is located just above the spur-wheel D, and which has mounted thereon a lantern-wheel, *c*, to mesh with the spur-wheel D. Just above the shaft E is another shaft, F, which has mounted on it a a lantern-wheel, *e*, to mesh with a spur-wheel, *f*, on the shaft E, and on the shaft F is a spur-wheel, *g*, which meshes with a lantern-wheel, *h*, on a shaft, H, located in front of the shaft F.

I represent an escapement-wheel on the shaft F, and located adjacent thereto, and adapted to engage it is a pallet, J, having an extended arm, K, on which is a movable weight, whereby the speed of the motor may be regulated by moving it to or from the escapement-wheel. Secured to the outer end of the extended arm is a cord, L, which connects with a pedal, by means of which the device may be stopped.

Journaled in the front of the frame is a rock-shaft, M, upon one end of which is mounted an arm, N, to the outer end of which a dasher may be attached, and extending upwardly from said rock-shaft is an arm, O, which is connected to the crank-shaft by an arm, P, whereby the rock-shaft will be oscillated.

In using the device for running sewing-machines a pulley might be placed on the crank-shaft, and connected with a pulley on the rock-shaft by a belt and the rock-shaft connected with the sewing-machine.

Having thus described my invention, what I claim is—

1. The combination, with a supporting-frame and a shaft having bearing therein, of a spring, a spur-wheel, a ratchet-wheel, a pawl, and spring to engage therewith, a shaft having an escapement-wheel thereon, intermediate gearing between the spur-wheel and escapement-wheel, a pallet having an extension, a movable weight thereon, a treadle, and a cord connecting the extension and treadle, as set forth.

2. The combination, with a supporting-frame, of a train of spring-actuated gearing, a crank-shaft, a rock-shaft having an arm, connections between the crank and rock shafts, and means, substantially as described, for regulating the speed of the device, substantially as set forth.

3. The eombination, with a supporting-frame, a shaft mounted therein, a spring, a spur-wheel, a ratchet-wheel, a pawl secured to the spur and engaging the ratchet-wheel, and a spring, of a shaft carrying an escapement-wheel, intermediate gearing, substantially as described, a pallet having an extension, a movable weight on the extension, a crank-shaft, an arm connected thereto, a rock-shaft connected with said arm, and an arm on the rock-shaft, as set forth.

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

A. FRANK HARRELL.

Witneses:
R. M. McCLUNG,
S. W. WALLACE.