

R. LONGIN.

PENDULUM.

No. 173,410.

Patented Feb. 15, 1876.

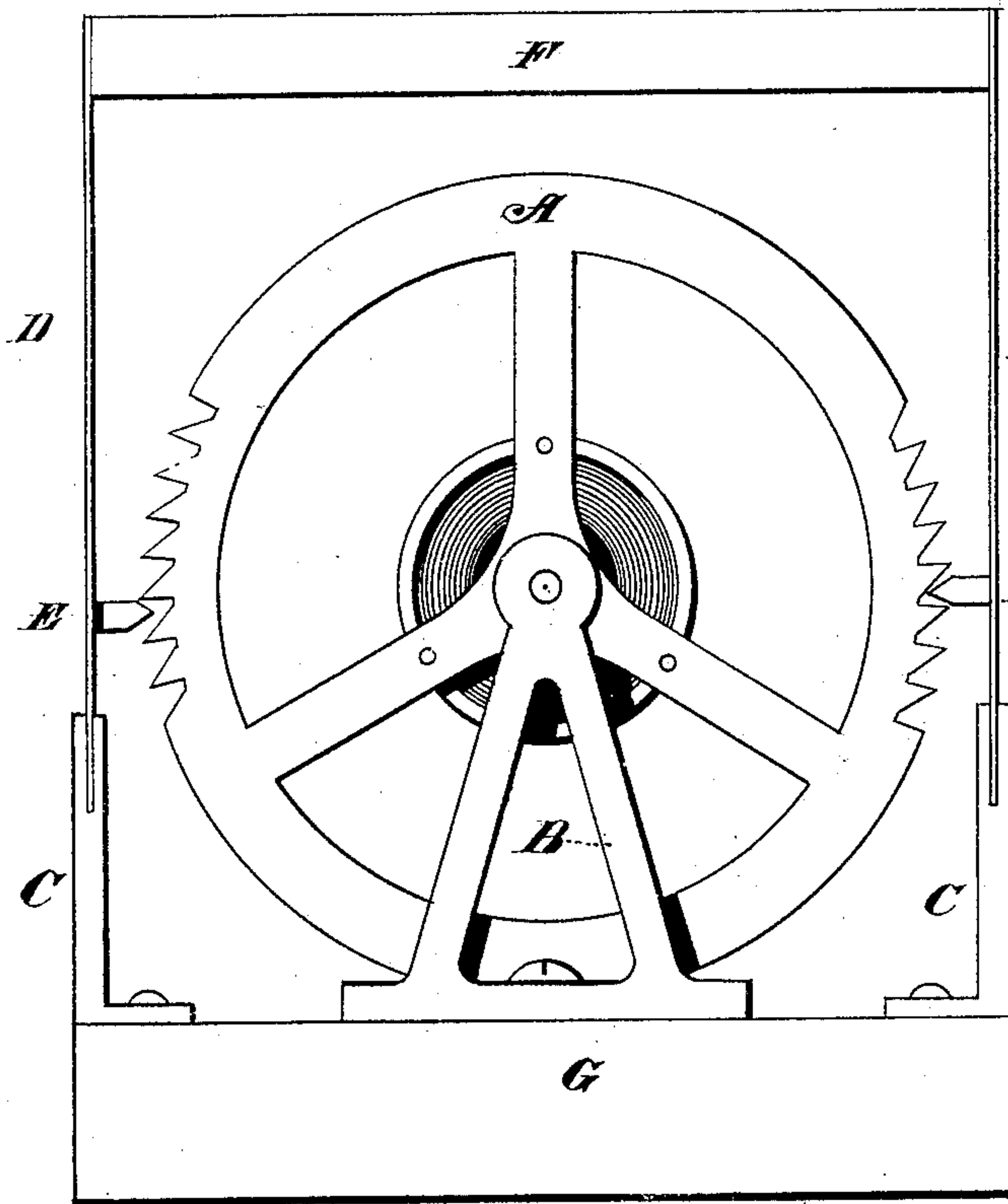


Fig I.

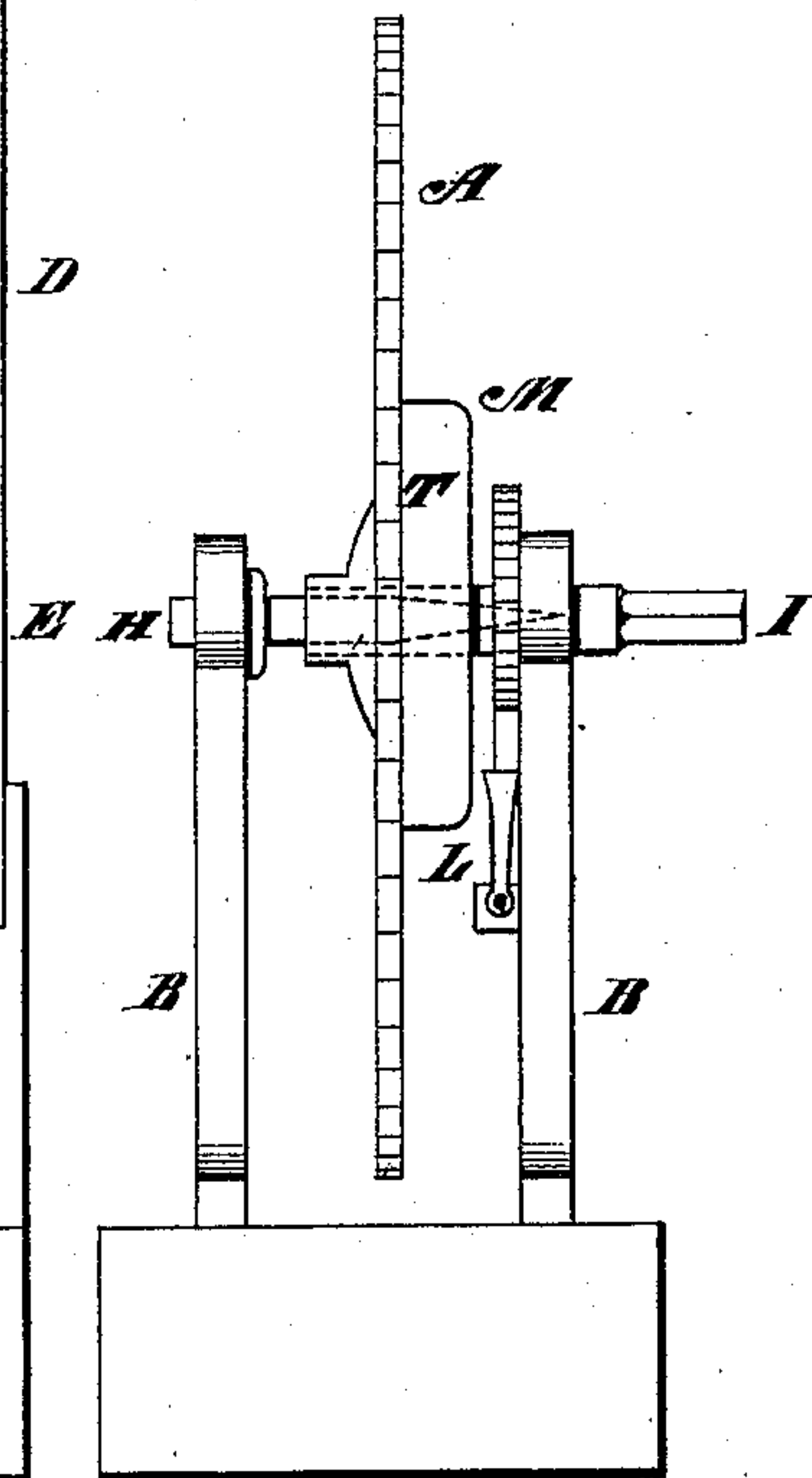


Fig II.

Witnesses

E. J. Each
C. A. Munson

Inventor
Raymond Longin
by his Attorneys

Halbert T. Hyde

UNITED STATES PATENT OFFICE.

RAYMOND LONGIN, OF BORDEAUX, FRANCE.

IMPROVEMENT IN PENDULUMS.

Specification forming part of Letters Patent No. **173,410**, dated February 15, 1876; application filed January 19, 1876.

To all whom it may concern:

Be it known that I, RAYMOND LONGIN, of Bordeaux, France, have invented a new and useful Improvement in Pendulums, of which the following is a specification:

The object of my invention is to obviate the inconveniences existing in machinery depending upon the use of pendulums, consequent upon the requirement of much gearing for its regulation, by much diminishing, or entirely dispensing with, such gearing; and my invention relates to superposing a weight, which takes the place of the ordinary pendulum, upon steel springs, the elasticity of which permits and assists in the oscillations necessary for an escapement.

In the drawings, Figure I is a side view of a machine embodying my principle, and Fig. II is an end view with the weight and springs removed.

A is a circular toothed wheel, forming the escapement to the oscillations of the balance-pendulum fixed on the rod I I. B B are the pillars supporting the axis of the wheel, and secured to the base G. C C are the fulcrums of the steel blades D D. D D are the escapement-springs, moving from the right to the left, and vice versa, when the spring of the barrel-arbor T is wound up by a crank or key adapted to the square point I. E E are escapement-points fixed to the springs D D. F is a cross-piece, which may be of iron, lead, or any other material affording the requisite weight, and unites the ends of the escapement-springs D D, where its weight permits the springs to make pendulum oscillations. G is the base, to which are screwed the pillars or fulcrums D D B B, and which may vary

in form and matter. H is the pivot-rod, riveted or soldered to the wheel A. T is a remontoir-box, perforated in its length, and bearing upon it, next to the post B, a ratchet-wheel, M, which, in connection with a spring-pawl, permits the spring L to be wound while so holding it. In this box the rod H turns freely, as indicated by the dotted lines in the drawing. T is the barrel inclosing the motive-spring L, which is rolled in and hooked to the box I.

In operation, when the motive-spring L is wound up it is only necessary to swing the weight F to start the oscillations, which are uniformly continued until the power applied to the wheel is expended. The rapidity of the escapement is affected at once by any change of the weight F, (superposed,) and from the position of weight it is accessible at all times to be varied, which facility of regulation is a great advantage obtained in this device, more especially when applied to other purposes than as an escapement for clocks.

I do not wish to confine myself to the employment of two springs, D, as, in connection with a superposed weight, I may use one or several.

Now, having described my invention, what I claim is—

To form an escapement, the superposed weight F, in combination with one or more springs, D, arranged to operate in the manner and for the purpose shown and described.

LONGIN.

Witnesses:

CHARPENTIER,
CUPPEE.