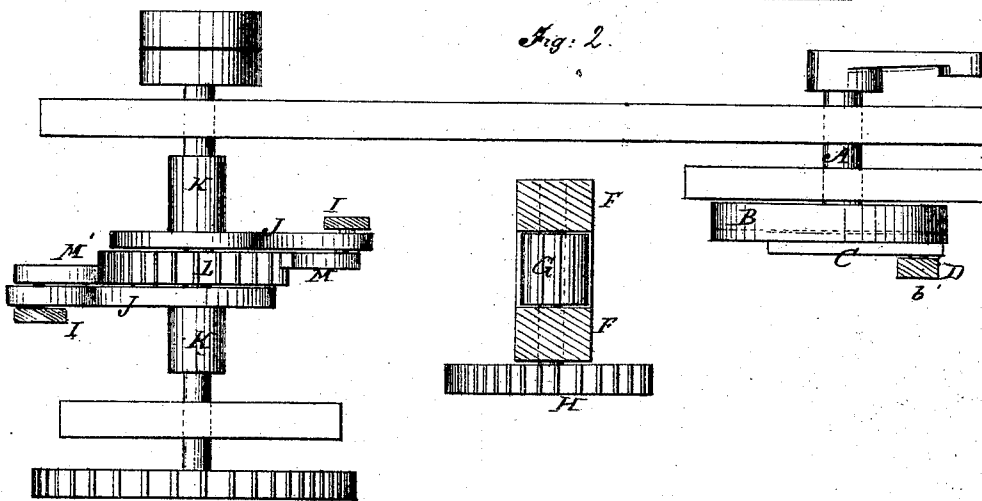
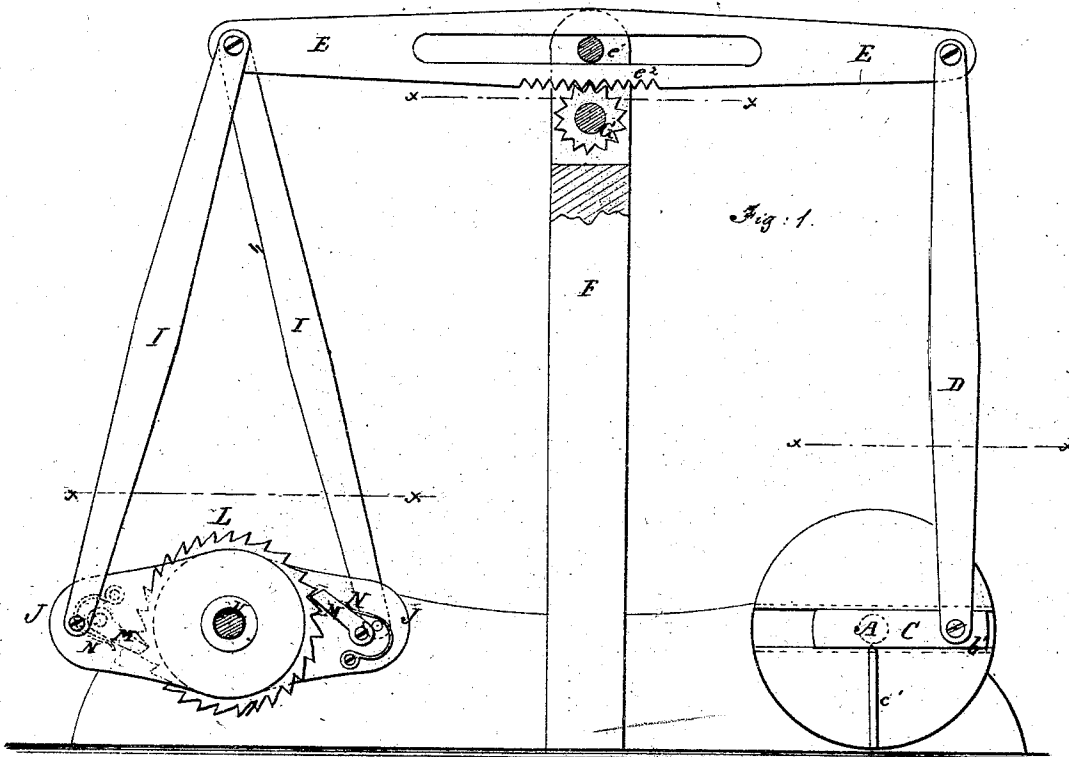


[63.]
No. 118,572.

Patented Aug. 29, 1871.

E. E. Young's Mechanical Movement.



Witnesses:

Chas. Nida
Wm. H. C. Smith

Inventor:

E. E. Young.

PER *Wm. H. C. Smith*
Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD E. YOUNG, OF YORK, MAINE.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. 118,572, dated August 29, 1871.

To all whom it may concern:

Be it known that I, EDWARD E. YOUNG, of York, in the county of York and State of Maine, have invented a new and useful Improvement in Mechanical Movement; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side view of my improved device, parts being broken away to show the construction. Fig. 2 is a detail sectional view of the same taken through the line *x x x x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved device for varying the rapidity of motion, and which shall, at the same time, be simple in construction, effective in operation, and easily adjusted; and it consists in the construction and combination of the various parts of the device, as hereinafter more fully described.

A represents a shaft, to which the power is applied by a crank or other convenient means. To the shaft A is attached a crank-wheel, B, the crank-pin *b'* of which is attached to a dovetailed slide, C, which works in a dovetailed groove in the side of the wheel B, and which may be held in place when adjusted by a catch, *c'*, or which may be adjusted and held by a swiveled crank-screw working in the teeth in the said slide C. By this construction the crank-pin *b'* may be moved toward or from the center of the wheel B, thus adjusting the length of the crank, and consequently the motion communicated from said crank. To the crank-pin *b'* is pivoted the end of the connecting-rod D, the other end of which is pivoted to the end of the working beam E. The middle part of the beam E is slotted longitudinally, to receive a pin, *e'*, attached to the standard or frame-work F, to which the said beam E is pivoted. Upon the under side of the beam E are formed teeth *e²*, which mesh into the teeth of the small gear-wheel G, the journals of which work in bearings in the standard or frame F. To the projecting end of one of the journals of

the wheel G is attached a hand-crank or screw-wheel, H. In the latter case the wheel H is turned by a swiveled crank-screw connected with the standard or frame F. By this construction, by turning the wheel G in one or the other direction the relative lengths of the two arms of the working beam E, and consequently the motion communicated from said beam, may be adjusted at will. To the other or working end of the beam E are pivoted the upper ends of two connecting-rods, I, the lower ends of which are pivoted to the outer parts of two bars or plates, J, riding upon and pivoted to the shaft K upon opposite sides of the ratchet-wheel L, rigidly attached to said shaft, the lower ends of the rods I being arranged upon opposite sides of the shaft K, as shown in Figs. 1 and 2. To the inner side of the outer part of the plates or bars J are pivoted pawls M, in such positions that their engaging ends may take hold of the teeth of the opposite sides of the ratchet-wheel L. The pawls M are held against the teeth of the wheel L by springs N, attached to the plates or bars J and pressing against the said pawls. By this construction the shaft K will be moved by one of the pawls M as the end of the beam E moves downward, and moved in the same direction by the other pawl as the said end of the beam E moves upward. Motion may be taken from the shaft K to the machinery to be driven by a gear-wheel or band-pulleys, as may be desired. By this construction the throw of the working end of the beam E may be adjusted to give a greater or lesser movement to the shaft K, as may be desired.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of a guide-pin, *e'*, and gear-wheel G with the slotted and toothed middle part of a working beam E, substantially as herein shown and described, and for the purpose set forth.

EDWARD E. YOUNG.

Witnesses:

W. M. WALKER,
G. W. S. PUTNAM.