(No Model.)

E. RAU.

MECHANICAL MOVEMENT.

No. 413,791. Patented Oct. 29, 1889.

Fig. 1.

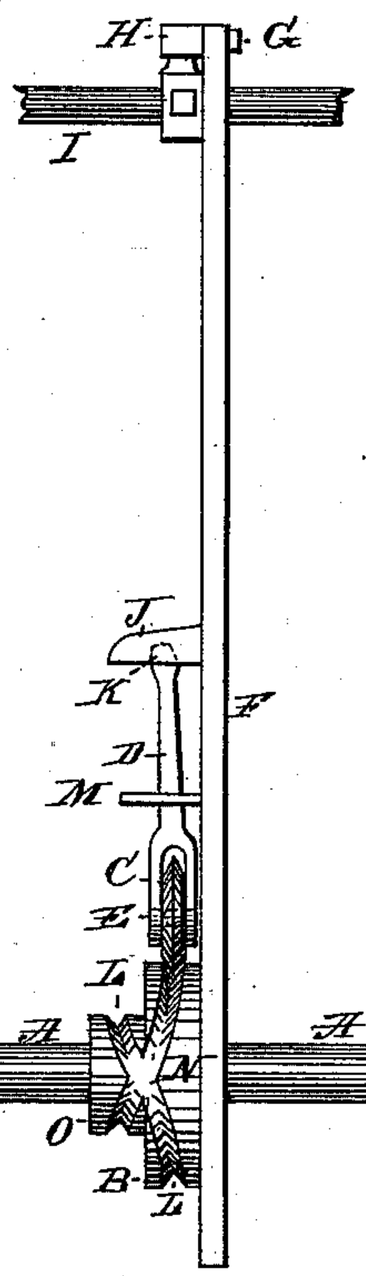
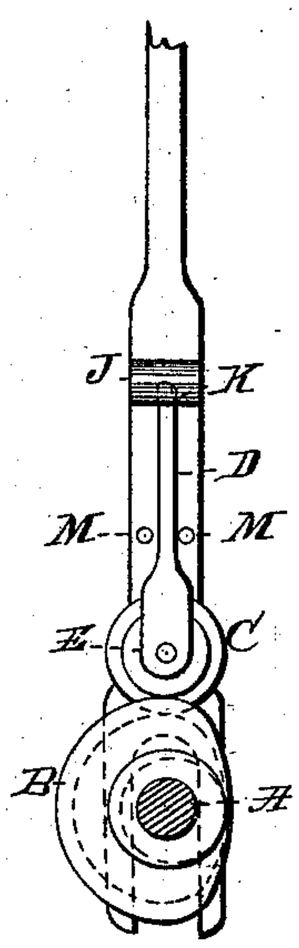


Fig. 2.



Witnesses

Jas. C. Warner

James M. Hicks

Inventor

Emanuel Rau

By his Attorney

W. L. Bernem

UNITED STATES PATENT OFFICE.

EMANUEL RAU, OF NEW YORK, N. Y., ASSIGNOR TO THE EMANUEL RAU MANUFACTURING COMPANY, OF SAME PLACE.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 413,791, dated October 29, 1889.

Application filed July 15, 1889. Serial No. 317,630. (No model.)

To all whom it may concern:

Be it known that I, EMANUEL RAU, a citizen of the United States of America, residing at Brooklyn, county of Kings, and State of New York, have invented and made a new and useful Mechanical Movement; and I do hereby declare that the following is a full, clear, and exact description and specification of the same, reference being had to the drawings forming part thereof.

The object of my invention is to provide a cam mechanism by means of which the cam gives one reciprocation to the rod which carries the cam-roll to two revolutions of the cam and its shaft, for operating envelope-machines, clock-calendars, &c.; and to this end my invention consists in the several parts or elements fully specified in and claimed at the end of this description.

In order that persons skilled in the art may understand, construct, and use my invention, I will proceed to describe it, referring to the drawings, in which—

Figure 1 represents a side elevation of my invention, and Fig. 2 represents an end view with the cam-shaft in section.

A is the cam-shaft.

B is the cam.

C is the cam-roll.

D is the vibrating rod or bar, which carries the cam-roll in bearings E.

F is a pitman-rod constructed at its lower end with a fork to straddle the cam-shaft, and at its upper end takes hold of a crank-pin G in a crank H, which is keyed to another shaft I.

A little distance above the cam-shaft, on pitman F, a lug J projects, and on its under side is a recess K, into which the upper end of the vibrating rod D takes. Through this vibrating rod D the whole weight of the pitman and other parts is supported by cam-roll C on cam B, and within its cam-groove L M are pins or studs in pitman F, to guide the vibrating rod D sidewise. The cam B is composed of two portions of different sizes diametrically—the part N and the part O—but their diameters coincide practically at one point. The cam-groove traverses the two portions spirally, or cross tracks at this point, so that the cam-roll guided by the cam-groove traverses from the portion N to the portion O, and one revolution of the cam-shaft A carries the cam-roll C around the portion O and the next revolution carries it around the portion N. In passing from N to O the cam-roll C and the rod D move away from a vertical line. The rod D, being loosely fulcrumed in the recess K of the lug J, is free to vibrate and allow motion to the cam-roll C in its circuitous travel around the two portions of the cam B. The pins M guide the rod D and prevent side motion. Thus it will readily be seen that by two revolutions of the cam-shaft A and cam B but one reciprocation of the pitman F is accomplished.

Having now fully described my invention and the manner in which I have embodied it, what I claim as new, and desire to secure by Letters Patent, is—

1. The cam B, having portions N O eccentric to each other, around both of which portions the track L is formed, constructed and arranged to operate substantially in the manner and for the purposes specified.

2. The cam B, having portions N O, the pitman F, cam-roll C, vibrating rod D, lug J, guide-pins M, and shaft A, all combined and arranged to operate substantially as specified.

EMANUEL RAU.

Witnesses:
W. L. BENNEM,
JAS. E. WARNER.