G. JUENGST.

MECHANICAL-MOVEMENT.

No. 173,301. Patented Feb. 8, 1876.

Fig.1.

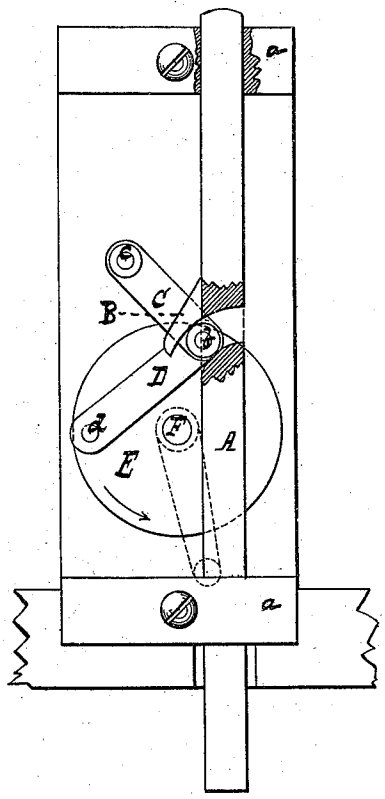


Fig.2.

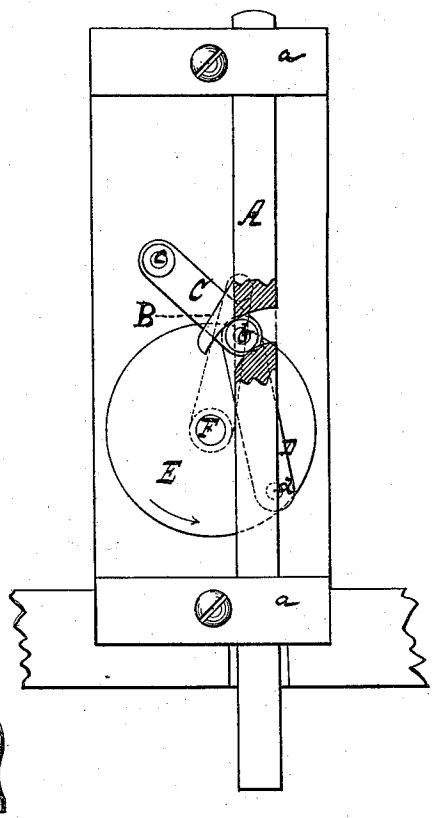
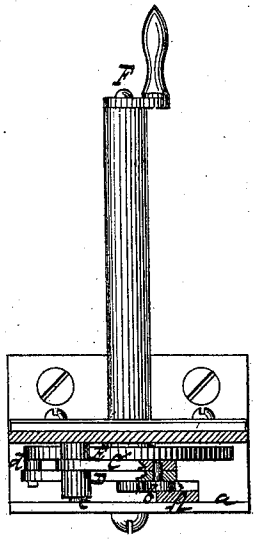


Fig.3.



Witnesses.
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per
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UNITED STATES PATENT OFFICE.

GEORGE JUENGST, OF NEW YORK, N. Y.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. **173,301**, dated February 8, 1876; application filed January 4, 1876.

To all whom it may concern:

Be it known that I, GEORGE JUENGST, of the city, county, and State of New York, have invented a new and Improved Mechanical Movement, which invention is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a sectional front view of my movement when the slide has reached it lowest position. Fig. 2 is a similar view, showing the parts in position just before the slide begins to rise. Fig. 3 is a horizontal section of the same.

Similar letters indicate corresponding parts.

This invention relates to a mechanical movement which is intended to convert a continuous rotary motion into an intermittent reciprocating motion, and which is designed particularly for imparting motion to the needle-slide of a sewing-machine, but which may also be used for other purposes.

My invention consists in a slotted cam-toe, which is secured to the slide, and which engages with a stud secured to an arm, which oscillates on a fixed pivot, and to which a vibrating motion is imparted by a link, which connects the stud with an eccentric wrist-pin secured in a disk, which is mounted on the driving-shaft, so that by revolving said shaft an intermittent reciprocating motion is imparted to the slide, and that said slide remains stationary during about one-third of the revolution of the shaft, its complete up-and-down stroke being completed during the remaining two-thirds of the revolution.

In the drawing, the letter A designates a slide, which moves in suitable guides *a a*. On the inner surface of this slide is secured a cam-toe, B, which straddles a stud, *b*, secured in an arm, C, which swings on a pin, *c*, that is fixed in the frame or standard supporting the guides of the slide A. That portion of the stud *b* which engages with the cam-slot of the toe B is armed with a friction-roller, which fits the cam-slot closely, so that the slide is moved with the least possible friction, and without any dead motion. Said stud is connected by a link, D, with an eccentric wrist-pin, *d*, which is secured in a disk, E, that is firmly mounted on the driving-shaft F.

By imparting a revolving motion to the driving-shaft an intermittent reciprocating motion is imparted to the slide A. When the disk E has reached the position shown in Fig. 1, the slide has arrived in its lowest position, and then the slide remains stationary during about one-third of the revolution of the disk, or until said disk has arrived in the position shown in Fig. 2. During the remaining two-thirds of the revolution of the disk the slide completes its up-and-down stroke.

My mechanical motion is intended particularly for imparting motion to the needle-slide of a sewing-machine, and for this reason the cam-toe B is so formed that a slight up-and-down motion is imparted to the slide after the same has reached its lowest position, and while the disk moves from the position shown in Fig. 1 to that shown in Fig. 2. The object of this up-and-down motion is to open the loop, so that the point of the shuttle can catch in the same.

By retaining the slide in its lowest position during one-third of the revolution of the shaft F the shuttle can pass clear through the loop before the slide begins to rise, and the danger that the shuttle be raised up by the loops is obviated.

My mechanical movement is applicable, however, to other devices where it may be desirable to use a slide which receives a reciprocating motion, and has to remain stationary during a portion of the revolution of the driving-shaft.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, substantially as set forth, of the slotted cam-toe B, attached to the slide A, with the arm C, oscillating on a fixed pivot, and provided with a stud, *b*, on which the cam-toe bears, and the link D, connected with a wrist-pin on the rotating disk E and to the arm C, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 28th day of December, 1875.

GEORGE JUENGST. [L. S.]

Witnesses:
W. HAUFF,
CHAS. WAHLERS.