J. J. KNECHT.

FRAME ACTUATING MECHANISM FOR EMBROIDERING MACHINES.

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1,136,815. Patented Apr. 20, 1915.

Fig. 1

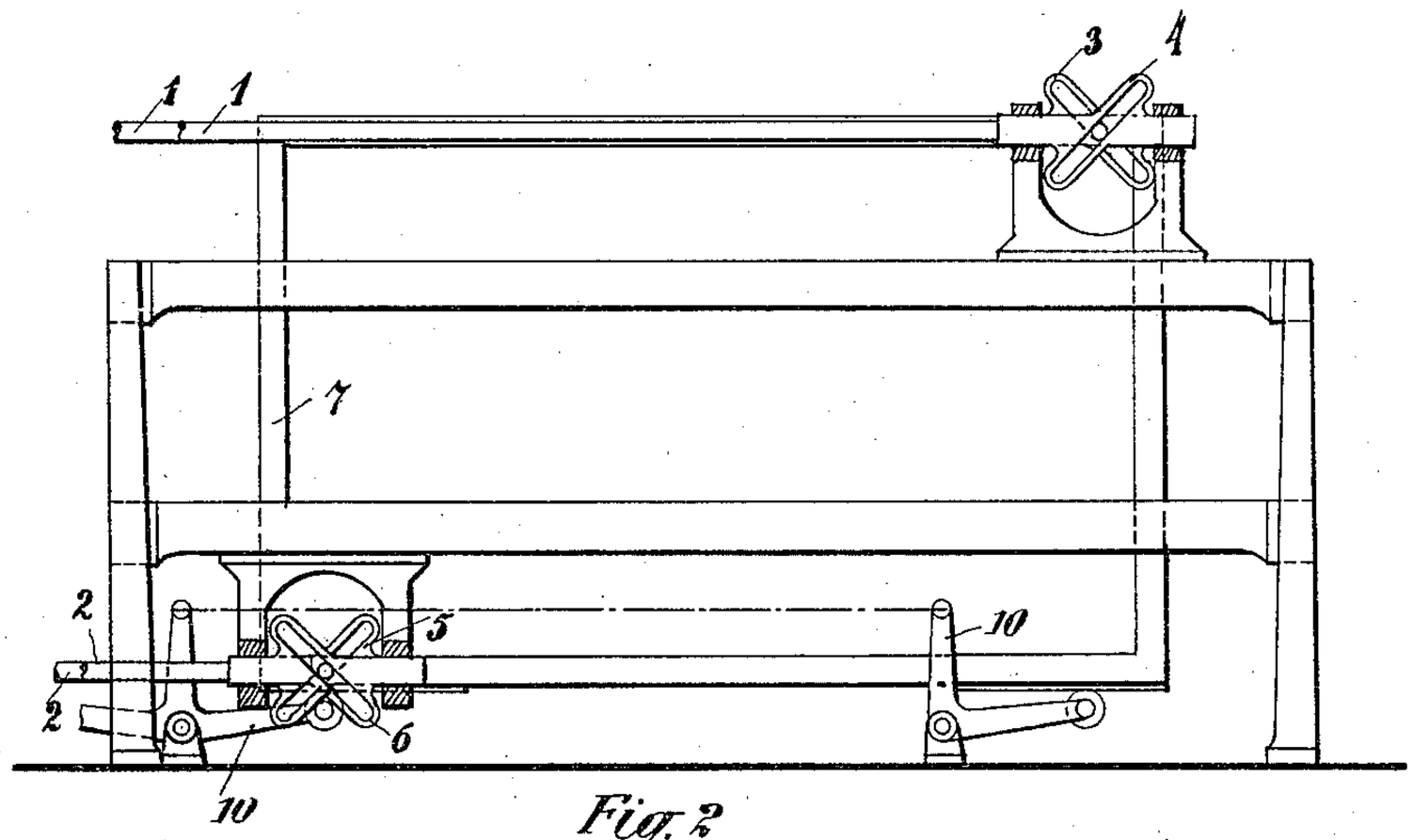
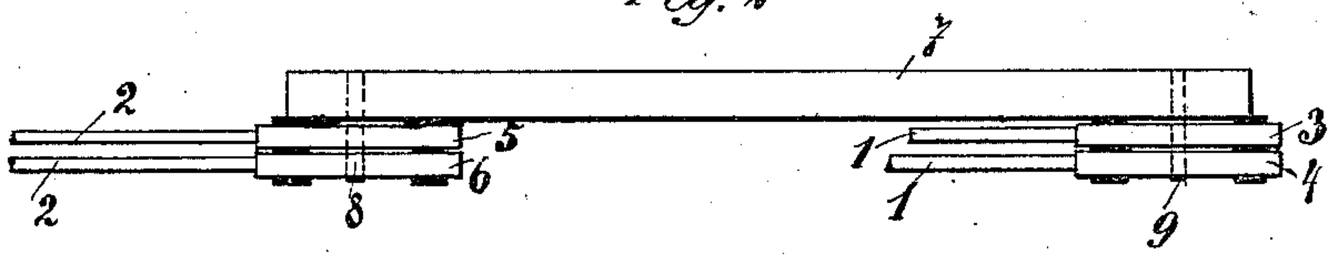


Fig. 2



Witnesses.

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FRAME-ACTUATING MECHANISM FOR EMBROIDERING-MACHINES.

1,136,815. Specification of Letters Patent. Patented Apr. 20, 1915.

Application filed October 11, 1910. Serial No. 586,507.

To all whom it may concern:

Be it known that I, JOHANN JAKOB KNECHT, a citizen of the Swiss Republic, residing at Chemnitz, in Saxony, Germany, have invented a certain new and useful Improvement in Frame-Actuating Mechanism for Embroidering-Machines, of which the following is a specification.

In embroidering machines it is highly desirable that the frame-movement takes place with perfect precision, and without deflection. However well the frame may be guided and balanced, it has been found that a certain loss of precision is apt to arise from lack of rigidity of the frame, the latter being distorted by the strain imposed by the actuating device. This distortion is due to the fact that the actuating mechanism engages the frame at only one part of the latter, so that there is a certain amount of lag in the movement of the frame at the parts remote from the point of engagement, and this cannot be wholly obviated by multiplication and distribution of the frame guides and balancing devices. According to the present invention the said disadvantage is overcome by using a plurality of collectively operative frame actuating devices (distinct from the guiding and balancing devices) engaging the frame at different parts of the latter, preferably at parts remote from each other.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is an elevation, partly in section, and Fig. 2 a plan view.

Referring to the drawings, the frame 7, supported and guided at the bottom by bell-cranks 10, is actuated at top and bottom by means of rods 1, 1 and 2, 2 respectively, these rods being connected to actuating slides 3, 4 and 5, 6 of a known type, which engage pins 8 and 9 fixed to the frame. The slides at top and bottom are placed at diametrically opposite corners of the frame. By this means the actuating effort is evenly distributed and balanced, and the movement takes place with perfect precision.

There may be more than two sets of actuating devices.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. In an embroidering machine the combination of a vertical fabric frame composed of limbs, movable supports upon which said frame is mounted, and a plurality of actuating devices severally engaging different limbs at opposite sides of said frame, whereby movements in different paths are imparted to said frame, each of said movements being imparted by said actuating devices acting together on said different limbs.

2. In an embroidering machine the combination of a vertical fabric frame composed of limbs, movable supports upon which said frame is mounted, and two actuating devices severally engaging different limbs of said frame at diametrically opposite corners thereof, the several actuating devices imparting like movements to the frame.

In witness whereof I have signed this specification in the presence of two witnesses.

JOHANN JAKOB KNECHT.

Witnesses:
MAX J. BERMDORF,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."