J. McCLOSKEY.

Mechanical Movement.

No. 168,575. Patented Oct. 11, 1875.

Fig: 1.

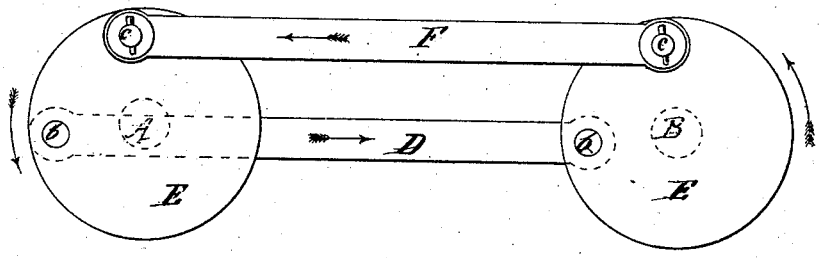


Fig: 2.

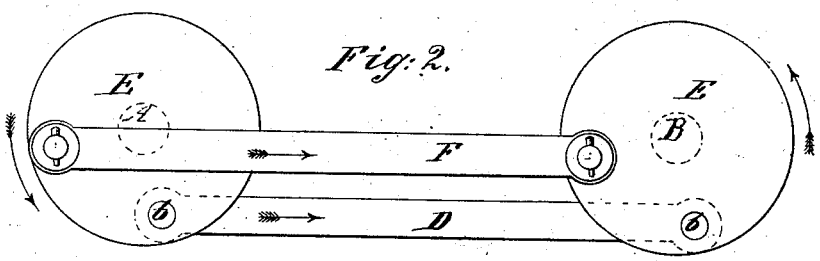
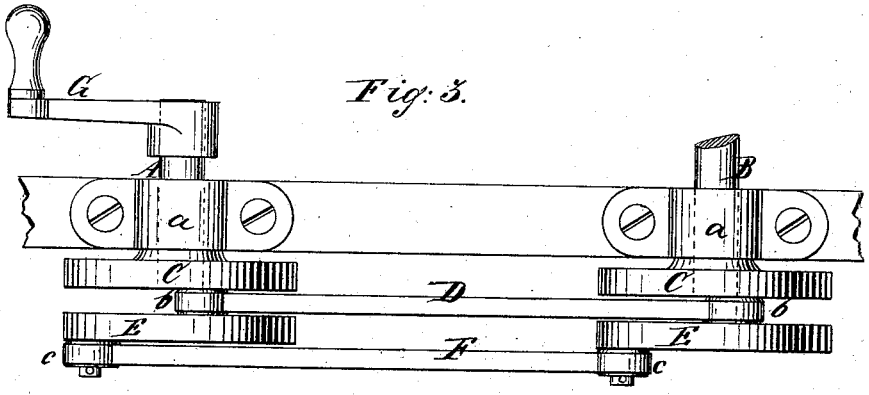


Fig: 3.



Witnesses:

Ernst Bilhuber.

H. Wells Jr.

Inventor:

John Mc Closkey

per James A. Whitney

Attorney.

UNITED STATES PATENT OFFICE.

JOHN McCLOSKEY, OF NEW YORK, N. Y.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. **168,575**, dated October 11, 1875; application filed August 20, 1875.

To all whom it may concern:

Be it known that I, JOHN McCLOSKEY, of the city, county, and State of New York, have invented an Improvement in Mechanical Movements, of which the following is a specification:

The object of this invention is to provide a noiseless, cheap, strong, and efficient means of transmitting rotary motion without the use of belts and pulleys, gears, friction-wheels, or pitmen, worked in whole or in part by cams or eccentrics.

The invention consists in two shafts, each provided with two cranks at an angle to each other, in combination with a disk having two connecting pitmen, the whole so arranged that each pitman, with its attached crank, shall act alternately with the other in transmitting rotary motion from one shaft to the other, and each pitman be free to pass the axis of the cranks operating the other, by which means the hereinbefore-indicated object is effectually secured.

Figures 1 and 2 are side views of my improvement, and Fig. 3 is a plan view of the same.

A and B are two shafts, each having a suitable bearing, *a*, in any appropriate support. Each shaft has at one end a disk, C, furnished with a crank-pin, *b*, the two crank-pins *b* being connected by a pitman or rod, D. Upon the outer end of each crank-pin *b* is a secondary disk, E, which has upon its outer side a crank-pin, *c*, in such position that a line drawn from it to the axial line of the shaft A or B, as the case may be, adjoining, would be at angle of, say, thirty to forty-five degrees with another line drawn to the aforesaid axial line from the crank-pin *b* of its adjacent disk C, the crank-pins *b* and *c* of the two contiguous disks being thus, so to speak, at an angle to each other. The two crank-pins *c* are connected by a rod or pitman, F.

In the operation of the apparatus, motion is communicated to one or the other, as the case may be, of the shafts A B by means of a crank, G, or other means of producing rotary motion in one of the said shafts, which is thus made to act as the primary or driving shaft of the device. Motion being given to one of the shafts A B, as just hereinbefore explained, one of the crank-pins *b*, acting through the pitman D, actuates the other crank-pin *b* to rotate the second or other shaft during such portion of the revolution of the two shafts as brings the other cranks *c* and pitman F at or near the dead-points of their rotation. As the cranks *b* approach their dead-points the cranks *c* are brought into position to transmit the rotatory motion of the one shaft to the other during a portion of their revolution, in the same manner as has previously been done by the cranks *b*. In this way the two sets of cranks *b* and *c*, with the connecting pitmen, act ternately to transmit the motion of one shaft to the other, the two pitmen, it will be observed, playing past the axes of their neighboring cranks and the axes of the two shafts without hinderance.

So far as relates to the scope of this present application, I do not claim a device for transmitting motion in which one pitman actuated by cranks and another actuated by eccentrics are employed in connection for the purpose herein indicated, such combination, embracing an eccentric or eccentrics as an essential element, being radically different from that herein set forth, and not fitted for the uses to which my invention, as herein set forth, is especially designed. Neither do I claim a system of double-elbow levers provided with crank-pins and connected by rods, as shown in Warren Rowell's patent of May 7, 1867; neither do I claim a single lever or rod connecting two cranks, and itself controlled by a slide, as shown in Nelson Read's patent of November 29, 1869, these devices being radically different from mine in construction and *modus operandi*, and consequently outside of my said invention; but

What I do claim as my invention is—

The two shafts A B, carrying the disks C E, provided with the crank-pins *b c*, which are connected by the pitmen F D, the whole combined and arranged substantially as specified, to cause the pitmen to travel simultaneously, but act alternately and both within the same radius from the axes of the shafts A B, as described.

JOHN McCLOSKEY.

Witnesses:

JAMES A. WHITNEY,

H. WELLS, Jr.