

D. WILLIAMSON.  
Mechanical-Movement.

No. 159,877.

Patented Feb. 16, 1875.

Fig. 1.

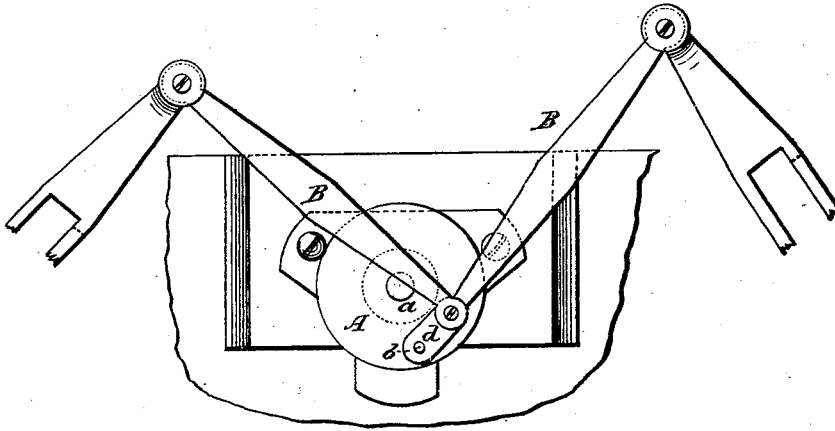
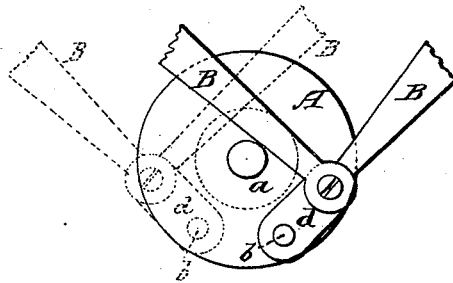


Fig. 2.



WITNESSES:

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per

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. 159,877, dated February 16, 1875; application filed February 3, 1875.

*To all whom it may concern:*

Be it known that I, DAVID WILLIAMSON, of Greenville, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Mechanical Movements; 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 which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to machines having two pitmen operating upon the same link loosely secured to a crank or disk; and the nature of my invention consists in a shaft having a link with one end attached loosely on the disk or crank outside the center of the shaft, whereby the power may be applied to the opposite end of the crank; and also in the combination of parts, as will be hereinafter more fully set forth.

In the annexed drawing, Figure 1 is a side elevation of a device embodying my invention; and Fig. 2 is a side view, showing the movement of the crank.

*a* represents a shaft, to which a rotary motion is to be imparted. This shaft is at one end provided with a disk, *A*, on which is a projecting stud or pin, *b*, located outside of the center of the shaft *a*. On the pin or stud *b* is pivoted one end of a loose link, *d*, to the outer end of which are pivoted two pitmen, *B B*, operated alternately by any suitable means.

In machines where two pitmen are used they are ordinarily attached directly to the crank or wrist pin *b*; but I interpose between said pin and the ends of the pitmen the loosely-pivoted link *d*, whereby it will be noticed that the points where the movement of one pitman ceases and the other commences are on the line-centers; thus there is never any stoppage or lost motion on the dead-centers, and the engine runs smoothly and evenly with a rapid and steady motion.

Though I have especially designed this movement for electric motors where the two pitmen are operated by rocking armature-levers, it may be used on other motors or machines equally as well for the same purpose and with the same results.

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

1. The disk upon shaft *a*, having a loose link, *d*, with one end attached loosely outside of the center of the shaft, and the pitmen *B B* applied to the opposite end of the loose link, combined substantially as and for the purpose herein set forth.

2. The pitmen *B B*, loose link *d*, pin *b*, and disk *A*, in combination with shaft *a*, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

D. WILLIAMSON.

Witnesses:

C. H. WATSON,  
I. W. COLLAMER.