

W. Walker,
Mechanical Movement.

No. 110,175.

Patented Dec. 13. 1870.

Fig. 1.

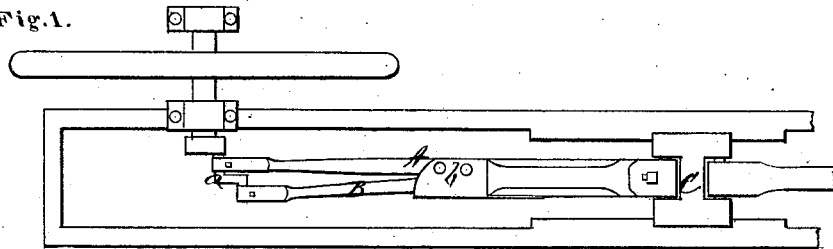


Fig. 2.

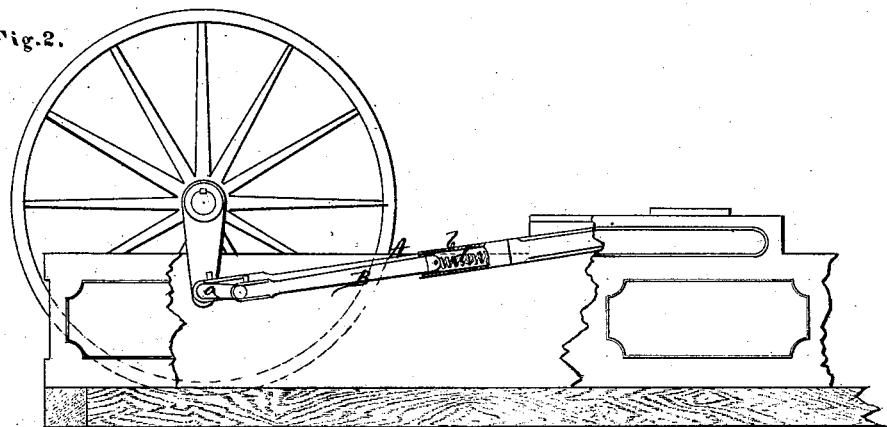
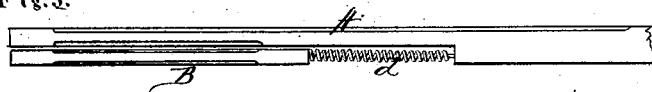


Fig. 3.



Witnesses.

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WILLIAM WALKER, OF ODIN, ILLINOIS.

Letters Patent No. 110,175, dated December 13, 1870.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM WALKER, of Odin, in the county of Marion and State of Illinois, have invented a new and valuable Improvement in Mechanical Movements; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of my machine in plan view;

Figure 2 is a side elevation of the same; and

Figure 3 is a plan view of the two pitmen.

The nature of my invention consists in two pitmen attached to a crank that has a double wrist, and so arranged that both cannot be on what is known as the "dead-center" at the same time, but when one is on the center the other is on the quarter, thereby entirely obviating the dead-center.

This device is applicable to all kinds of machinery, whether the motion be horizontal, lateral, or perpendicular.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation.

A represents a pitman, constructed in the usual manner, and placed on the crank or wrist *a*.

The second pitman B, which is shorter, is attached to the outer extremity of the wrist at a quarter of circle to the point of the wrist where the main pitman is attached.

The main pitman is, of course, attached to the cross-head C, which connects the piston-rod and pitman.

The other end of the pitman B is not attached to the cross-head C, but is placed in a box, *b*, attached to the long pitman A, and is movable at this end back

and forth, a spring, *d*, being inserted between this end of the pitman B and the bottom or inner end of the box *b*.

The use of the second pitman B is to throw the machinery off the dead-center, and the force does not come upon this pitman except just at those points in the revolution where the dead-center would take place unless it was overcome by the momentum.

This second pitman B promptly acts just at this point, and then retreats until it is necessary to act again.

There is no strain upon this second pitman to run the machinery, but only to overcome the dead point or to accomplish that which has been done by the balance or fly-wheel.

The motive-power is thrown upon the second or short pitman at the very instant that the long pitman would be on the dead-center; that is, the power is transferred from the long to the short pitman for an instant while the dead-center is being passed, and as soon as it is passed the power is re-transferred to the long or main pitman.

In fact, the whole thing is so arranged that the dead-center is easier passed than any other point of the revolution.

Having thus fully described my invention,

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

The auxiliary pitman B, with its spring *d* arranged and operating at the side of the main pitman A, substantially as and for the purposes herein set forth.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM WALKER.

Witnesses:

WILLIAM OLIVE,
JOHN HOFFMAN.