J. C. DAVIS.

Mechanical Movement.

No. 202,707. Patented April 23, 1878.

Fig. 1.

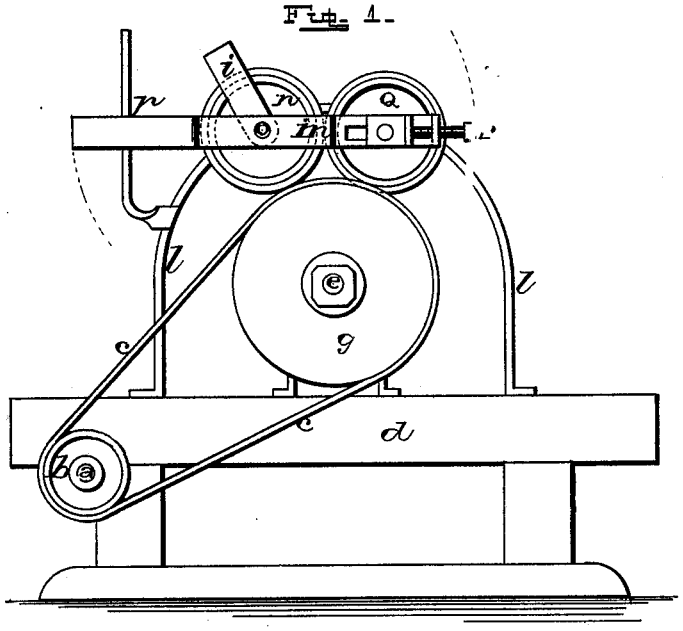
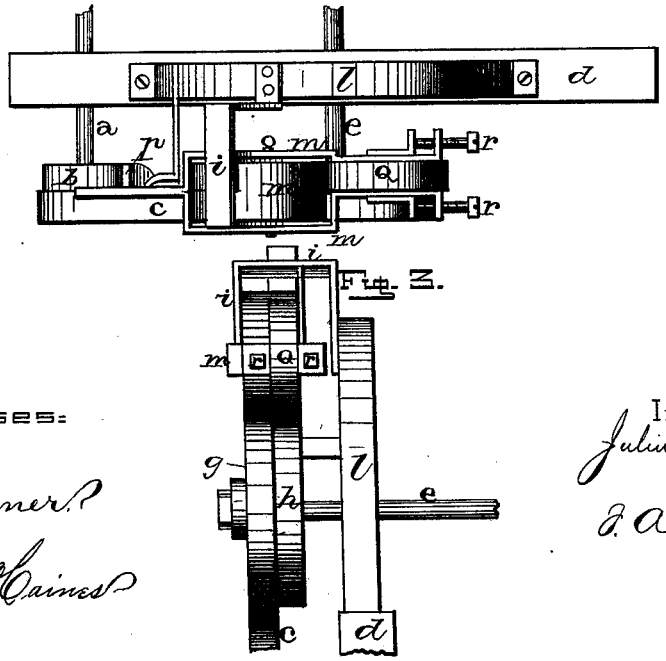


Fig. 2.



Witnesses:

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JULIUS C. DAVIS, OF OSKALOOSA, IOWA.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. **202,707**, dated April 23, 1878; application filed March 14, 1878.

To all whom it may concern:

Be it known that I, JULIUS C. DAVIS, of Oskaloosa, in the county of Mahaska and State of Iowa, have invented certain new and useful Improvements in Mechanical Movements; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in mechanical movements for reversing the motion of machines without reversing the belt or shaft that drives the machine; and it consists in the combination of a wide pulley, which bears upon the driving-belt while it runs upon the loose pulley of the machine, and a narrow pulley, which bears against the wide pulley and the large fixed driving-pulley of the machine, whereby the driving-belt will be made to run, as usual, upon the loose pulley, and yet the motion be reversed, as will be more fully described hereinafter.

The accompanying drawings represent my invention.

a represents the main driving-shaft; *b*, the pulley secured thereto, and *c* the driving-belt. Passing through the frame *d* of the machine is the shaft *e*, upon one end of which is placed the loose pulley *g* and the fast pulley *h*, and these two pulleys are driven by the driving-belt *c*. Thus far all these portions of the machine are old and in common use, and form no part of my invention.

Detachably secured to the frame-work *l*, any portion of the bearings overhead, or any other suitable support, is the frame *i*, through which is passed the pivot-shaft *o*. Upon this shaft is placed the broad driving-pulley *n*, having its surface covered with leather or any other suitable material, and the pivoted frame *m*. The rear end of this frame *m* serves as a lever or handle for tilting the frame up and down, and to catch under a suitable stop, *p*, to hold the forward end in a raised position when it is no longer desired to use it. In the forward end of the machine is pivoted a narrow pulley, Q, which also has its face covered with leather or other suitable material, and which bears against the broad pulley *n*. This end of the frame is slotted and bent outward, or suitably arranged so that the set-screw *r* can bear against the boxes in which the pulley Q revolves, and thus adjust them forward so as to cause the surface of the narrow pulley to press against that of the broad pulley with any desired degree of force.

When it is desired to reverse the motion of the machine for any purpose, the large or wide pulley is brought in contact with the driving-belt which runs on the loose pulley of the machine, and this belt causes this broad pulley to revolve with it.

As the narrow pulley Q bears against the broad pulley and the fixed pulley of the machine, it is evident that the main shaft *e* is made to revolve backward while the driving-belt *c* is running upon the loose pulley. As soon as it is desired to stop the backward motion of the machine, it is only necessary to raise the end of the frame in which the pulley Q is placed upward, and the motion will be stopped at once.

When my attachment is no longer needed for reversing the motion of the machine, it can be removed and applied to another machine for the same purpose.

My invention will be found useful in many classes of machines, and especially where it is necessary to grind the tools, cards, and other appliances used in connection therewith.

Having thus described my invention, I claim—

1. The combination of the broad pulley *n*, narrow pulley Q, driving-belt *c*, loose pulley *g*, and fast pulley *h*, substantially as shown.

2. The combination of the pivoted frame *m*, broad pulley *n*, narrow pulley Q, and set-screws *r*, whereby the two pulleys may be adjusted in relation to each other, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of March, 1878.

JULIUS C. DAVIS.

Witnesses:
JOHN SIEBEL,
A. A. KINDIG.