United States Patent Office.

HENRY J. CASE, OF AUBURN, NEW YORK.

Letters Patent No. 89,026, *dated April* 20, 1869.

MECHANICAL MOVEMENT.

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, HENRY J CASE, of Auburn, in the county of Cayuga, and State of New York, have invented a new and useful Mechanical Movement, of which the following is a full, clear, and exact description.

The object of my invention is to produce a simple effective mechanical movement, for driving sewing-machines, turning-lathes, and other machines, which will prove less fatiguing to the muscles than the treadle-powers now generally used for this purpose.

The improvement herein claimed consists in a novel method of rotating the band-wheel, or driving-wheel, by means of two cranks, each connected by a link-rod with a vibrating arm on a rock-shaft, worked by an oscillating pedal, or pendulum; each system of pedals, rock-shafts, and vibrating arms being independent of the other.

By this mode of construction, I am enabled to drive the machine by a horizontal swinging motion of the foot, instead of the usual vertical movement, which I believe to be much more fatiguing to the muscles.

My improvement further consists in a novel method of combining a swinging foot-rest with an oscillating pendulum pedal, as hereinafter set forth.

In the accompanying drawings, which make part of this specification—

Figure 1 represents a view in elevation of my improvement as seen from the front;

Figure 2 represents a similar view of the same as seen from one side; and

Figure 3 a view similar to fig. 1, showing a modification of my invention.

A table, or frame, A, to support the mechanism, is mounted on suitable legs B.

Pedals, or pendulums C C′, are secured to studs c c^1, on independent rock-shafts D D′, by means of set-screws c^2, passing through slots in the pedals. By this means the pedals can be raised or lowered to suit operators of different heights.

The lower part of each pendulum is forked, and a shoe or foot-rest, I, is pivoted in a stirrup, i, so as to oscillate vertically in its bearings, thus relieving the muscles of the operator.

In figs. 1 and 2, the shaft D is shown as passing through the other one, D′, which is made tubular for this purpose, so that each can move independently of the other.

The shaft D extends beyond the driving-wheel G, and carries a fixed arm, E. A link, e, is pin-jointed on the lower end of this arm, and on a crank, F, on the shaft of the driving-wheel G, which turns in suitable brackets H under the table.

The shaft D′, in like manner, is connected with the wheel by its arm E′, link e', and crank, F′. I prefer to arrange the cranks at a slight angle to each other, instead of diametrically opposite.

The operation of the machine will readily be understood.

The pedals are oscillated in alternately opposite directions, imparting a corresponding movement to the rock-shafts and vibrating arms E E. These impart a continuous rotary movement to the driving-wheel, through the links e e', and cranks F F′.

In fig. 3, I have shown both cranks as arranged on the same side of the driving-wheel, and the rock-shafts as arranged in line, but not passing through each other. The operation, however, is the same in either case.

Two shafts might also be arranged parallel to each other, but not in the same line, and yet work well.

The wheel can be rotated with one pedal only, but the motion is not so uniform as when both are employed.

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

1. The combination of the pedals, the rock-shafts, the vibrating arms, the links, and the cranks, all arranged and operating as described, with the driving-wheel.

2. The combination, as set forth, with the oscillating pendulum pedal of the rocking foot-rest.

In testimony whereof, I have hereunto subscribed my name.

HENRY J. CASE.

Witnesses:

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No. 89,027. Patented April 20, 1869.

Fig: 1.

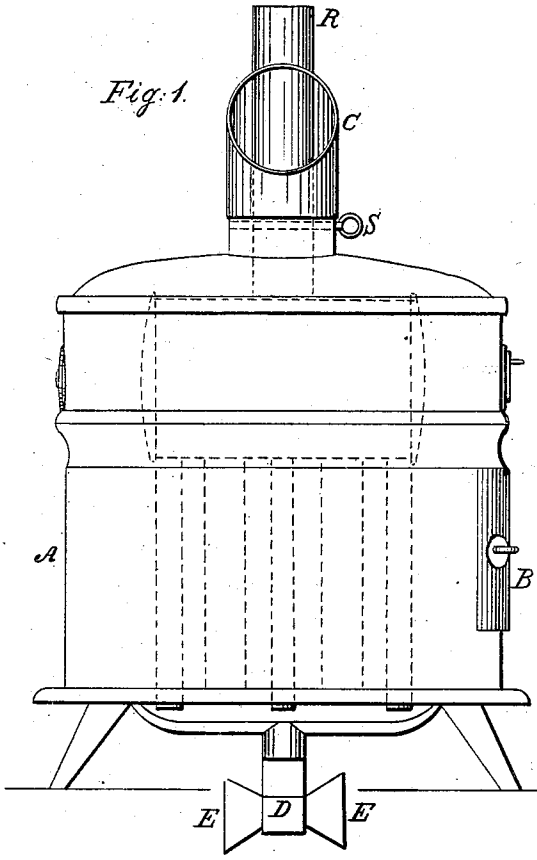


Fig: 2.

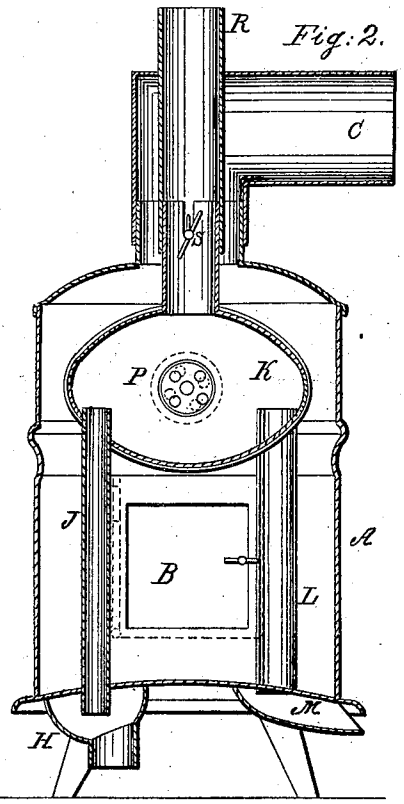


Fig: 3.

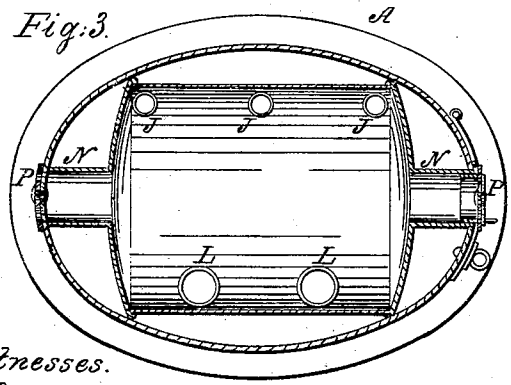


Fig: 4.

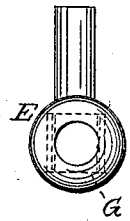
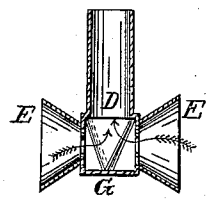


Fig: 5.



Witnesses.

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