

J. PENCILLE.
Mechanical Movements.

No. 150,351.

Patented April 28, 1874.

Fig. 1

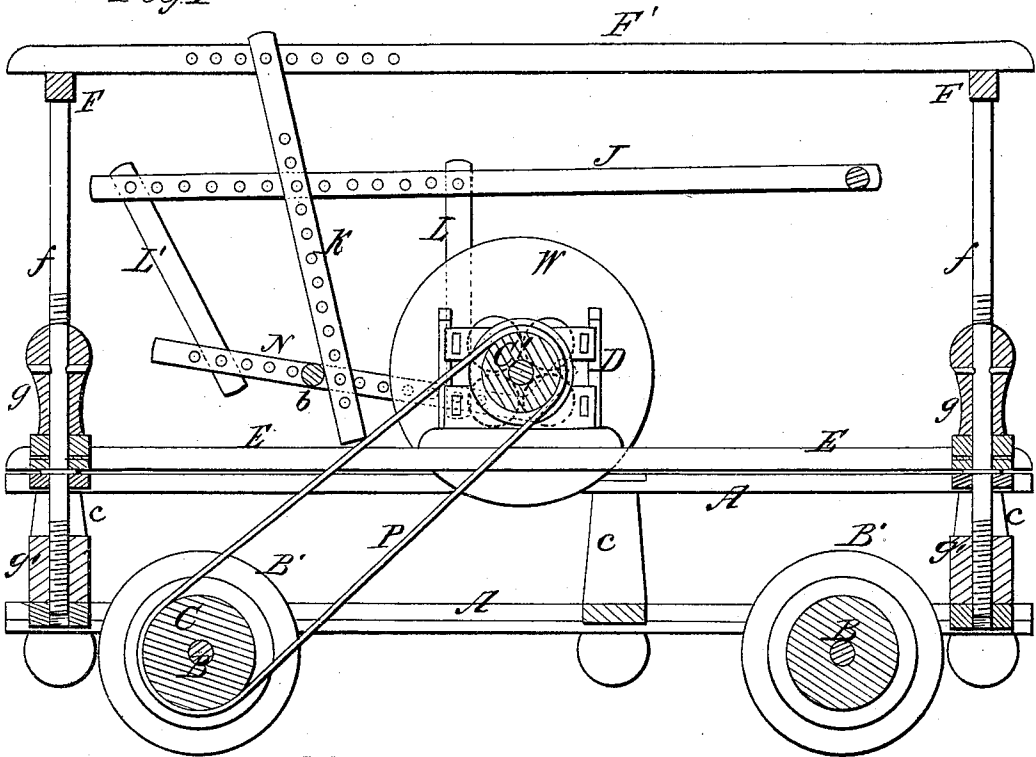
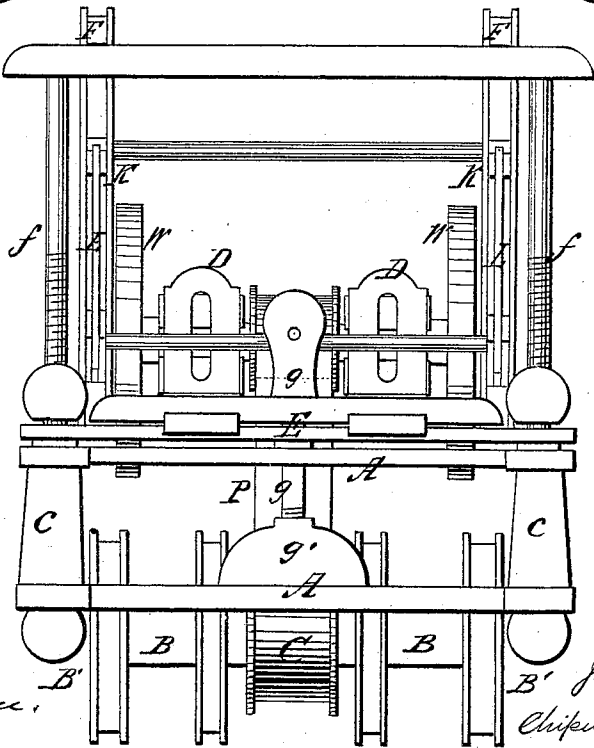


Fig. 2



WITNESSES
C. H. Bates
Geo. S. Upham,

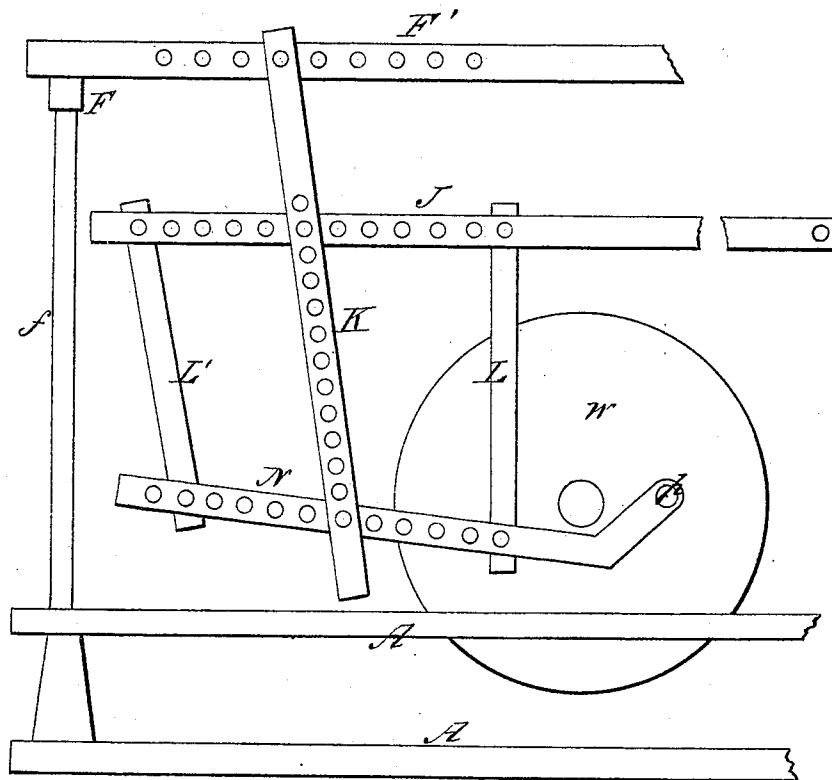
INVENTOR
Jethro Pencille
Chipman & Co.
ATTORNEYS.

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Fig. 3



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UNITED STATES PATENT OFFICE.

JETHRO PENCILLE, OF SENECA FALLS, NEW YORK.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. **150,351**, dated April 28, 1874; application filed March 14, 1874.

To all whom it may concern:

Be it known that I, JETHRO PENCILLE, of Seneca Falls, in the county of Seneca and State of New York, 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 drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a sectional view of my device. Fig. 2 is an end view of the same, and Fig. 3 is a detail view.

This invention has relation to mechanical movements for propelling cars on railways, and carriages on common roads, and also for driving machinery generally. The nature of my invention consists in a novel combination of levers with a swinging fulcrum and a balance-wheel, whereby both an upward and a downward force will be transmitted from the vibrating actuating-lever to the wrist-pin of the balance-wheel, for the purpose of giving rotatory motion to this wheel, as will be hereinafter explained.

In the accompanying drawings, Figs. 1 and 2, I have represented my new mechanical movement applied to a car-truck for moving the same, and in Fig. 3 I show the movement applied to a stationary frame. A designates a frame of rectangular form, and B B are the axles of truck-wheels B', which support the frame A. C designates a drum or pulley, which is keyed on one of the axles B, around which a belt, P, passes, that also passes around a drum, C', which is keyed on the shaft of two balance-wheels, W W. The shaft of these balance-wheels has its bearings in anti-friction journal-boxes D D, which are mounted upon a vertically-movable frame, E. This frame E receives through its four corners guide-posts *f*, which rise perpendicularly from the frame A, and are connected together at their upper ends by cross-bars F and longitudinal bars F'. The frame E is vertically adjustable at both ends by means of screws *g*

g, which are tapped into blocks *g' g'* on the lower portion of the frame A.

Instead of the screws *g*, levers may be employed for raising and depressing the frame E. The object of adjusting-frame E is to tighten and loosen the belt P. By loosening this belt the motion of pulley C' will cease to be transmitted to the axle on which the pulley C is applied.

K K designate two swinging fulcrum-arms, which are adjustably attached to the horizontal beams F' on opposite sides of the frame A. Each one of these arms affords a fulcrum for an actuating-lever, J, and a secondary lever, N, which latter is arranged below the lever J, and attached by one end to a wrist-pin, *p*, which is applied eccentrically to the face of a balance-wheel, W. Levers J N are connected together by means of rods L L', which are applied on opposite sides of the swinging fulcrum-arm K. The actuating levers J J and the secondary levers N N are connected together by means of cross-bars, so that they move together, and these levers are adjustably applied to the fulcrum-arms, as shown in Figs. 1 and 3. The connecting-rods L L' are also adjustably applied to the levers J N, whereby the leverage can be shortened or lengthened, as circumstances require.

It will be seen from the above description that when the levers J are vibrated vertically, rotatory motion will be transmitted to the balance-wheels, and also to the car-wheels.

By the arrangement of the connecting-rods L L' on opposite sides of the swinging fulcrum-arms K K, two forces will act together to turn the balance-wheels—that is to say, there will be a downward force acting on one side of the fulcrum of lever N, and an upward force acting at the same time on the opposite side of said fulcrum, and vice versa. Incidental to this arrangement of the levers and connecting-rods are the swinging fulcrum-arms, which allow a force to be applied to the actuating-levers J in a direction with their length. This allows me to overcome the “dead-centers” while rotating the balance-wheels.

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

1. The vibrating actuating-lever J, having its fulcrum on a swinging arm, K, and connected by means of thrusting and pulling rods L L' and a lever, N, to a wrist-pin, *p*, on a balance-wheel, W, substantially as described.

2. The balance-wheel shaft, having its bearings on a frame, E, which is vertically adjustable by means of screws *g g* tapped into blocks *g' g'* of the frame A, in combination with a belt, P, which is applied around a pulley, C',

on said shaft, and also around a pulley, C, on the driven shaft or axle B, substantially as described.

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

JETHRO PENCILLE.

Witnesses:

GEORGE E. UPHAM,
D. D. KANE.