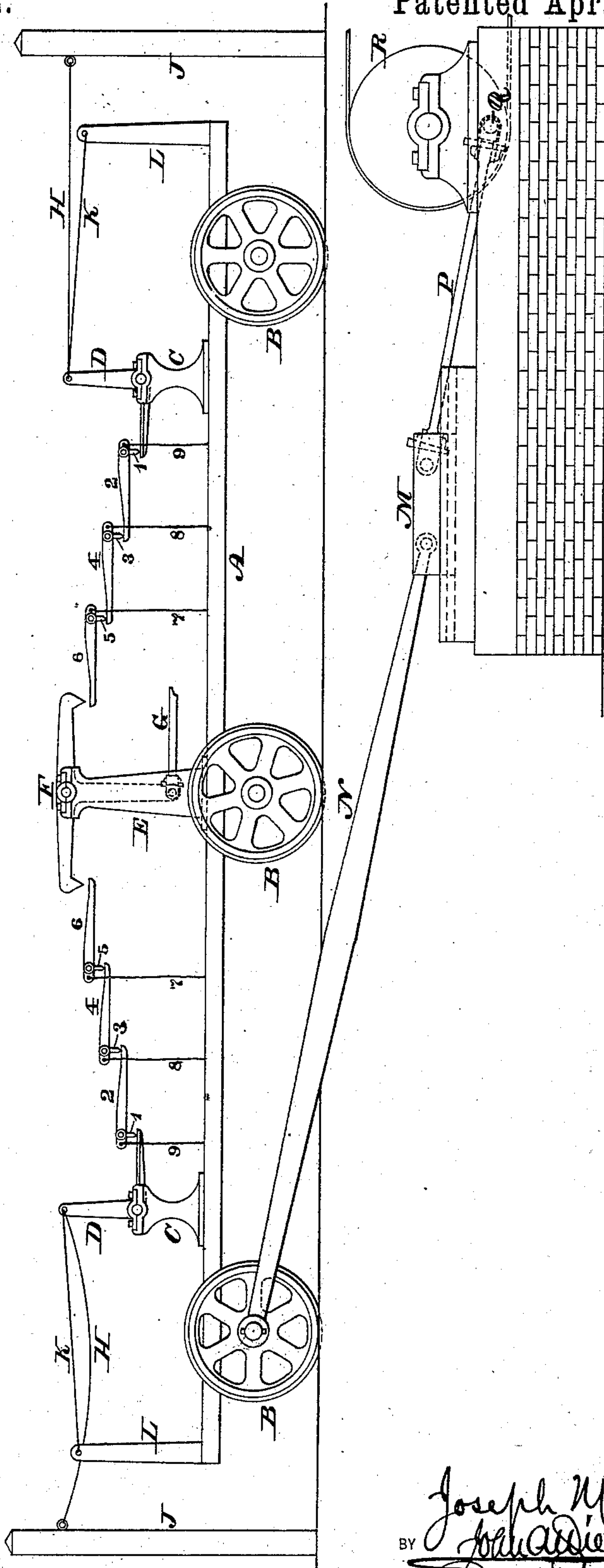


(No Model.)

J. MORWITZ.
MECHANICAL MOVEMENT.

No. 315,432.

Patented Apr. 7, 1885.



WITNESSES:

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JOSEPH MORWITZ, OF PHILADELPHIA, PENNSYLVANIA.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 315,432, dated April 7, 1885.

Application filed January 13, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MORWITZ, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Mechanical Movements, which improvement is fully set forth in the following specification and accompanying drawing, in which the figure represents a side elevation of a mechanical movement embodying my invention.

The object of the invention is the utilization of a strain, pull, or jerk upon ropes, chains, rods, or bars for the purpose of producing motion and power.

Referring to the drawing, A represents a carriage whose wheels are run upon tracks, a road-bed, platform, &c., as desired.

Supported upon opposite sides or ends of the floor of the carriage are pedestals C, on which are mounted elbow-levers D.

Upon the horizontal limbs of the levers D are supported pedestals 1, on which are mounted levers 2, whose arms are in the proportion of one to ten.

Upon the long arms of the levers 2 are supported pedestals 3, on which are mounted levers 4, whose arms are in the proportion of one to ten.

Pedestals 5 are supported on the long arms of the levers 4, and levers 6 are mounted on said pedestals, said arms being of the proportion of one to ten.

Connected with the short arms of the levers 2 4 6 are ropes, chains, rods, or bars 7 8 9—ropes being preferred—the lower ends whereof are secured to the floor of the carriage.

Rising from the floor of the carriage, between the pedestals C C, is a pedestal, E, on which is mounted a walking-beam, F, the ends of which overhang the long arms of the lever 6.

Attached to the beam F is the connecting-rod G of an engine or motor, whereby power may be communicated to said beam, the effect of which is communicated to the two levers 6, thus alternately operating the latter.

Connected with the elbow-levers D are ropes H, which are secured to posts J, rising from the road or road-bed, and also connected with said levers are ropes K, which are secured to posts L, rising from the floor of the carriage.

A cross-head or slide, M, is suitably mounted

adjacent to the carriage A, and connected therewith by a rod or bar, N, one end of which is attached to the axle of one of the wheels of the carriage, although it may be pivoted to any part of the carriage or truck thereof, said slide having a connecting rod or bar, P, which is attached to the wrist-pin Q of a crank, band, or power wheel, R.

It will be seen that when the beam F is operated the levers 6 are alternately struck and their long arms accordingly depressed. This strains the ropes 7, and the pedestals 5 are pressed downward upon the levers 4. The levers 4 strain the ropes 8, and the pedestals 3 are pressed downward upon the levers 2. The levers 2 strain the ropes 9, and the pedestals 1 are pressed downward upon the elbow-levers D. The ropes H are alternately stretched, whereby the carriage is quickly moved in opposite directions, the effect of which is the operation of the slide M, and consequent rotation of the wheel R, the power of which may be communicated by a belt, band, or gearing to the place of service.

The ropes K limit the advancing motions of the elbow-levers, it being noticed that the stretching of the ropes H is abrupt, so that the carriage is quickly moved in its opposite directions, as is evident, it also being evident that by the expenditure of a small power to operate the beam F the mechanism employed causes the operation of the wheel R with considerable force and rapidity.

The ropes, pedestals, and levers may be multiplied as desired.

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

1. A carriage, in combination with a series of power-transmitting levers, a prime motor therefor, and elbow-levers, said power-transmitting levers being located one on the other and connected with the floor of the carriage, whereby the elbow-levers are operated, substantially as and for the purpose set forth.

2. A carriage provided with levers and a motor therefor, in combination with ropes connected with said levers, and attachments, as described, independent of the carriage, substantially as and for the purpose set forth.

3. A carriage provided with levers, a motor therefor, and a rope, which latter is connected

with said lever, and an attachment, as described, independent of the carriage, in combination with a stop-rope attached to said lever and the carriage, substantially as and for
5 the purpose set forth.

4. A carriage with levers, a motor therefor, ropes connected with said levers, and attachments, as described, independent of the car-

riage, in combination with the slide M, connecting-rods N P, and power-wheel R, substantially as and for the purpose set forth. 10

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