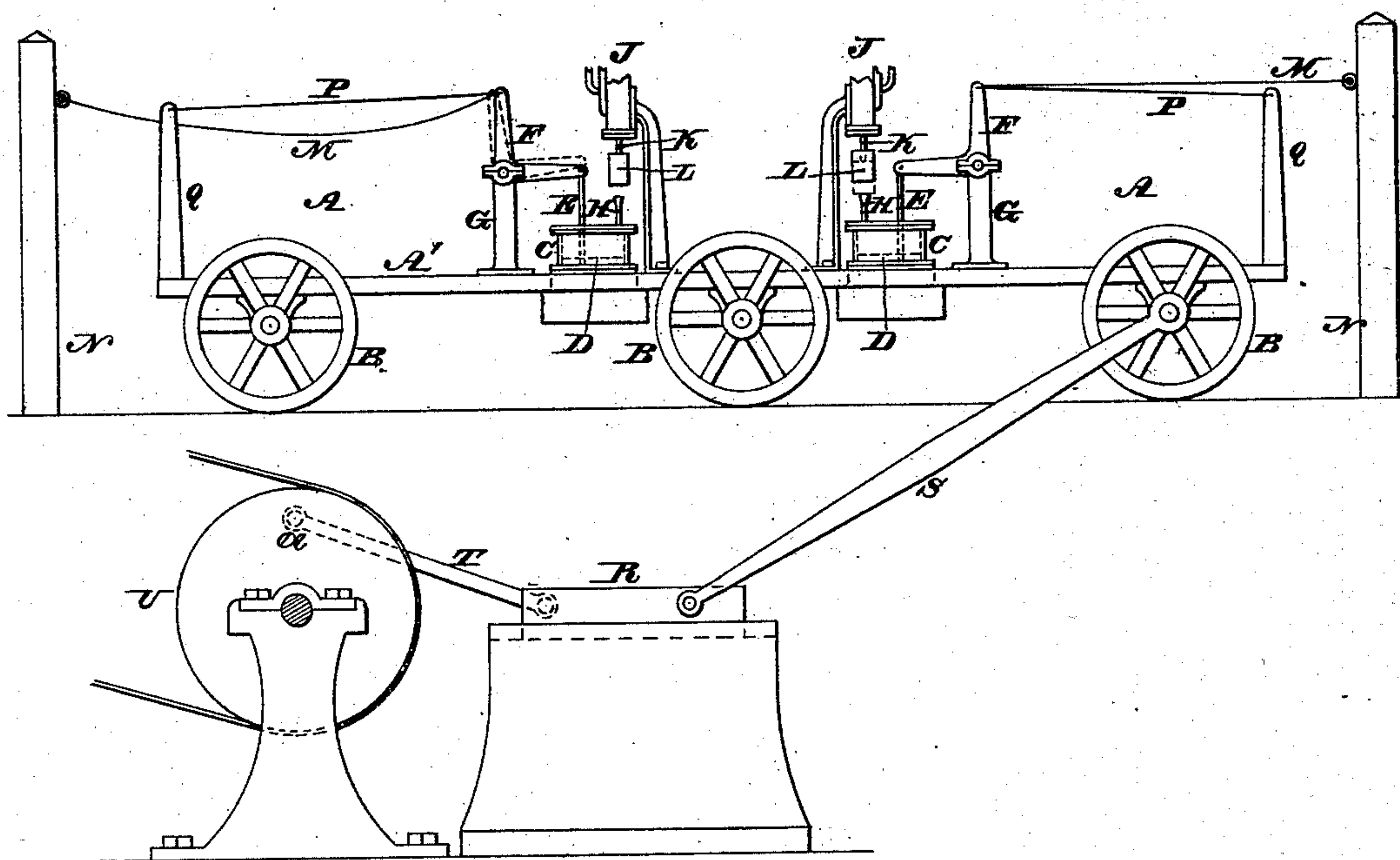


(No Model.)

J. MORWITZ.  
MECHANICAL MOVEMENT.

No. 315,431.

Patented Apr. 7, 1885.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSEPH MORWITZ, OF PHILADELPHIA, PENNSYLVANIA.

## MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 315,431, dated April 7, 1885.

Application filed October 9, 1884. (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 is a side elevation of a mechanical movement embodying my invention.

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

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

Supported upon the floor A' of the carriage are cylinders C, within which are pistons D, the rods E whereof are connected with elbow-levers F, the latter being mounted on pedestals G, which rise from the floor A' of the carriage.

H represents plungers, which are passed into the cylinders C, so as to compress the water or fluid therein and impart motion to the pistons D, and consequently to the elbow-levers F.

In order to depress the plungers H, I employ engines J, which are sustained on the carriage A, and operated by steam, air, &c., the piston-rods K of said engines carrying heads L, which are so disposed that when the engines are operated the heads L come in contact with the plungers H and impart blows thereto, it being noticed that the two engines are alternately operated so as to cause the alternate motion of the elbow-levers F.

Connected with the elbow-levers are ropes M, which are also connected with posts N, rising from the road-bed. Ropes P are also connected with the elbow-levers, and with standards Q, rising from the floor of the carriage A.

A cross-head or slide, R, is suitably mounted adjacent to the carriage A, and is connected therewith by a rod or bar, S, 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 rod or bar, T, which is attached to the wrist-pin a of a crank, band, or power wheel, U.

It will be seen that when the engines J are operated the plungers H are alternately depressed and short and rapid blows imparted to the pistons D, the motions whereof are communicated to the elbow-levers F, thus alternately stretching the ropes M, whereby the carriage is quickly moved in opposite directions, the effect of which is the operation of the slide R, and consequent rotation of the crank, band, or power wheel, the power of which may be communicated by a belt or band or gearing to the place of service.

When the ropes M of one side are stretched, those of the opposite sides are slackened, and when a plunger of one of the engines rises, the plunger D of the relative press or cylinder C is released, and thus the rod E rises and power is withdrawn from the elbow-lever F.

When a piston is depressed, the rope P is stretched, its resistance limiting the advancing motion of the elbow-lever, it being noticed that the stretching of the ropes M is abrupt, so that the carriage is quickly moved in its opposite direction, as is evident, it also being evident that by the expenditure of a small power to operate the engines J the mechanism employed causes the operation of the wheel U with considerable force and rapidity.

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

1. A carriage provided with presses and engines therefor, and levers connected with the piston-rods of said presses, in combination with ropes connected with said levers, and attachments, as described, independent of the carriage, substantially as and for the purpose set forth.

2. A carriage provided with a press, an engine therefor, a lever connected with the piston-rod of said press, 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 the purpose set forth.

3. A carriage with presses, engines there-  
5 for, levers connected with the piston-rods of said presses, ropes connected with said levers, and attachments, as described, independent of the carriage, in combination with

the slide R, connecting-rods S T, and power-wheel U, substantially as and for the purpose set forth.

JOSEPH MORWITZ.

Witnesses:

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