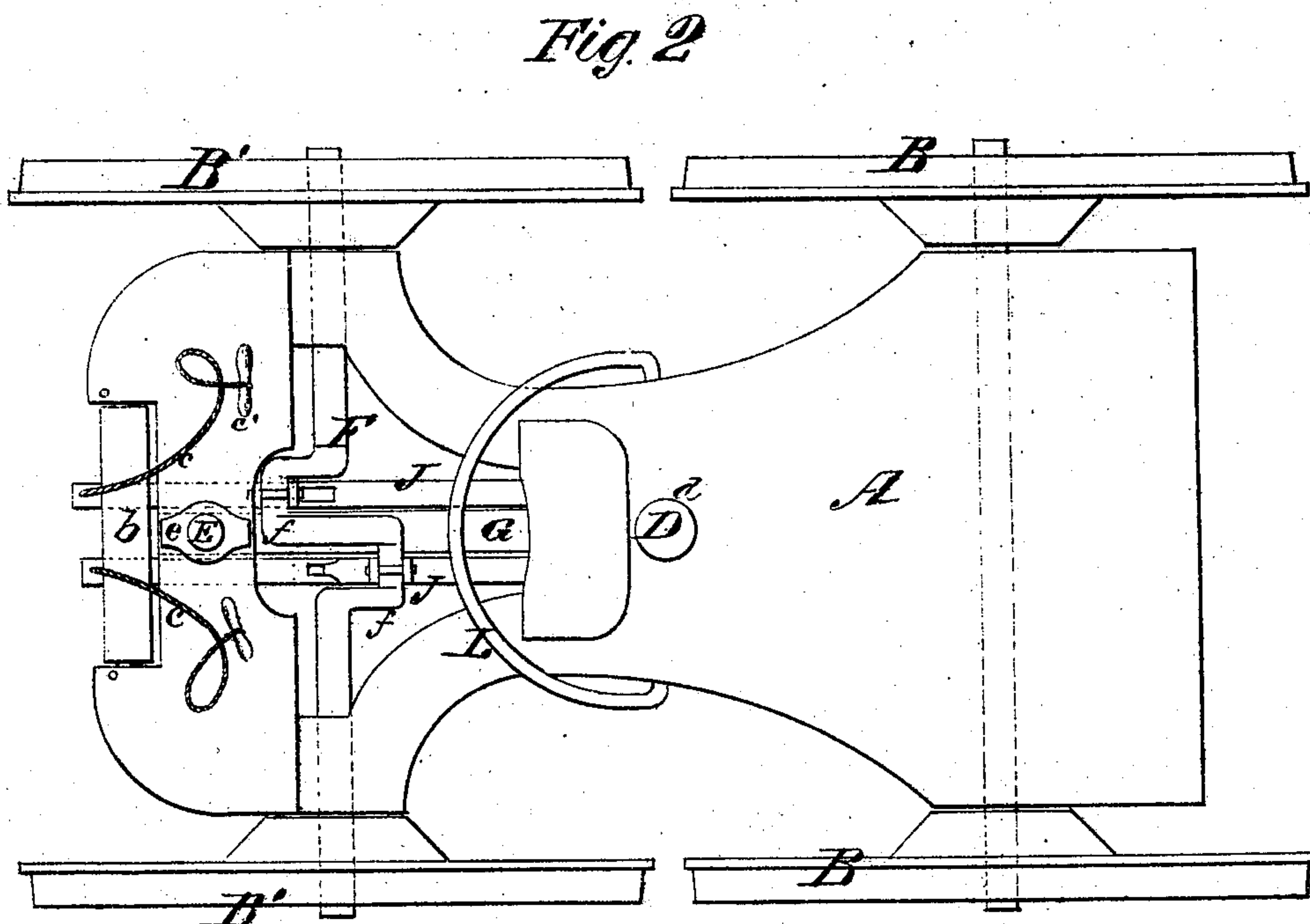
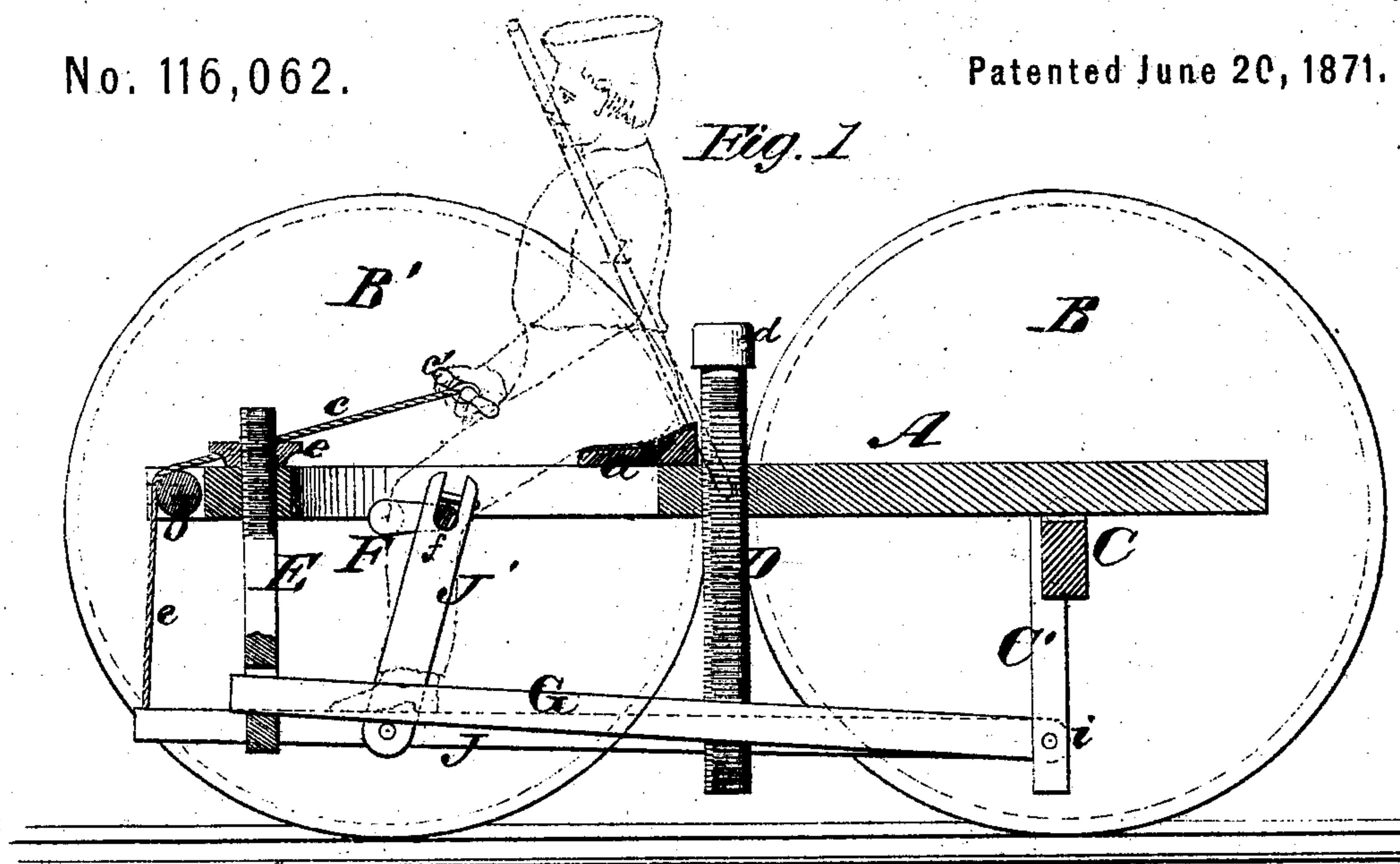


DAVID JOHNSTON.

Improvement in Hand-Cars.

No. 116,062.

Patented June 20, 1871.



Witnesses:
R. Thompson.
J. M. Campbell.

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DAVID JOHNSTON, OF EDDYVILLE, IOWA.

IMPROVEMENT IN HAND-CARS.

Specification forming part of Letters Patent No. 116,062, dated June 20, 1871.

To all whom it may concern:

Be it known that I, DAVID JOHNSTON, of Eddyville, in the county of Wapello and State of Iowa, have invented a new and Improved Railroad Hand-Car; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, Plate 1, is a section taken longitudinally and vertically through the carriage. Fig. 2, Plate 1, is a top view of the carriage. Fig. 3, Plate 2, is a sectional view of the same parts shown in Fig. 1, showing the carriage raised above the rails in a position to be turned around.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of my invention consists in a longitudinal beam suspended beneath the car in such a manner that it can be adjusted to different heights, in combination with two foot-levers or treadles, a crank-axle, and two pull or hand ropes, whereby the car can be worked by the feet and by the hands, and while one foot is in action the other is provided with a rest or support, and thus the fatigue usual in propelling with the feet is greatly lessened, and also the speed may be increased without too great exertion upon the legs or hands alone.

To enable others skilled in the art to understand my invention, I will explain its construction and operation.

In the accompanying drawing, A represents a horizontal platform, which is mounted on the axles of four transporting-wheels and provided with a seat, *a*, for the person riding on the machine. The transporting-wheels are large, and are flanged like railroad car-wheels, so as to keep on the track. The rear wheels B B are applied to an axle, C, which is secured fast to the platform A, and which has a pendant, C', rigidly secured to it at the middle of its length. The two wheels B' B' are applied rigidly to an axle, F, which is cranked at *ff*, and allowed to turn freely in suitable boxes. The cranks *ff* are connected, by means of rods J' J', to two treadles, J J, which are pivoted at *i* to the pendant C', and which extend forward and

have pull-ropes *cc* attached to their front ends. The pull-ropes *cc* are carried up and passed over an anti-friction roller, *b*, and have handles *c' c'* secured to their ends. By means of the treadles and pull-ropes combined a person sitting upon the seat *a* can bring into play both hands and both feet for propelling the carriage. Between the two treadles J J is a beam, G, which is pivoted at *i* to the pendant C', and connected near its front end to the lower end of a pendant, E. This pendant or post E has a screw-thread cut on its upper end, and this threaded portion passes up freely through the front transverse portion of the platform A and receives a nut, *e*.

The beam G is thus firmly held at both ends, and still can be adjustable, by means of the screw E and nut *e*, to suit long and short legged persons. A like provision may be made for adjusting the treadles, if required, by having a number of holes in the arm J' and adjusting the confining-pins to the same. This beam serves a twofold purpose: First, as a rest for the feet of the operator, one foot resting on it when the other is in use. Second, as a means for sustaining the lower end of a center pivot-screw, which will be presently described.

At or near the center of the carriage is a screw, D, which is tapped through the platform A and through the beam G. By means of a perforated head, *d*, on the upper end of the screw D, a lever can be applied to this screw for turning it and screwing it up or down. The object of this screw is to enable a single person to readily turn his carriage around upon the track. This is done by depressing the screw until its lower end bears upon a cross-tie of the track and raises the carriage high enough to free the flanges of its wheels from the rails, as shown in Fig. 3. When this is done the screw forms a pivot-support for the carriage, and allows it to be turned around, after which the carriage is lowered upon the track again, and the screw elevated so as to clear the cross-ties.

The bail L is intended to form a support for a canopy or calash-top for the protection of the watchman from rain. The drawing shows the

bail depressed, but when used as a canopy-frame it is erected, as indicated in dotted lines, Fig. 1.

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

The railroad hand-car, constructed with the suspended adjustable beam G, foot-levers or

treadles J J, crank-axle F, and pull-ropes *c c*, all arranged and combined substantially as described and shown.

DAVID JOHNSTON

Witnesses:

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