2 Sheets—Sheet 1.

C. W. HERMANCE, dec'd.,

L. W. Hermance & J. De W. Mott, Administrators.

CAR-STARTER.

No. 191,801. Patented June 12, 1877.

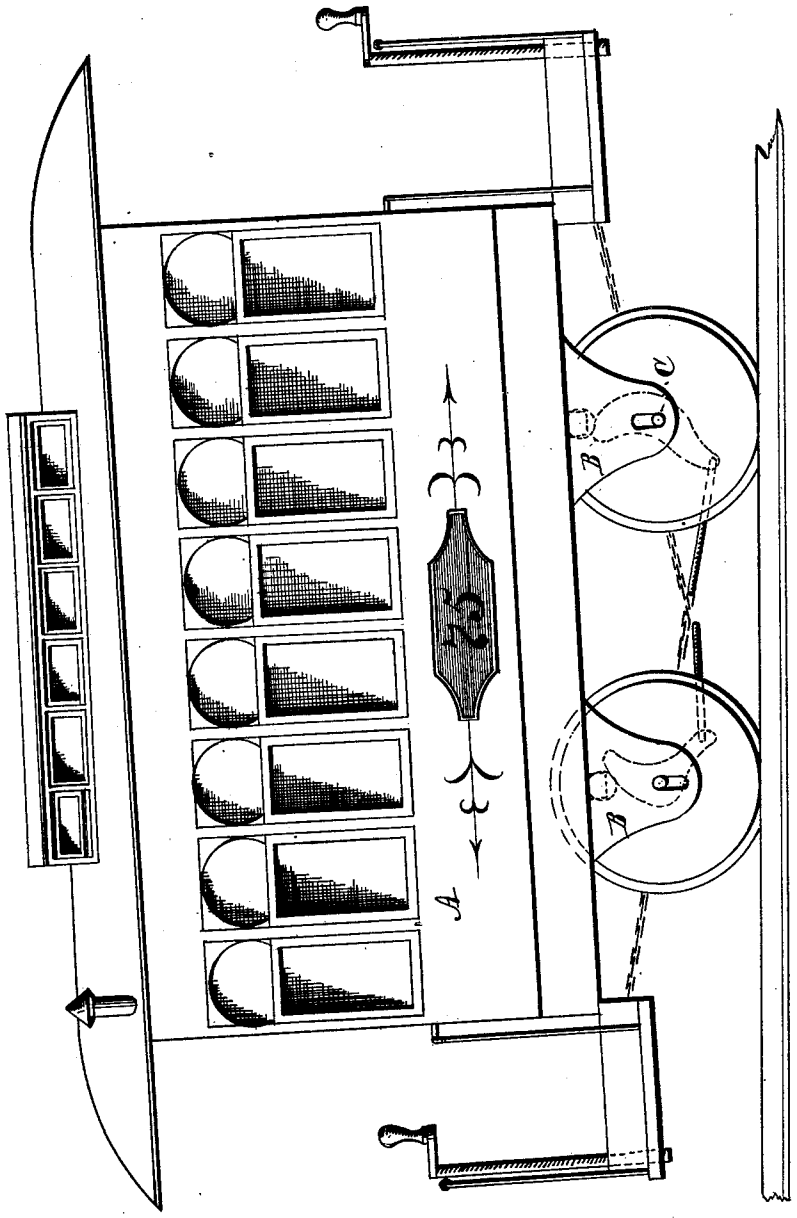


Fig. 1

WITNESSES

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2 Sheets—Sheet 2.

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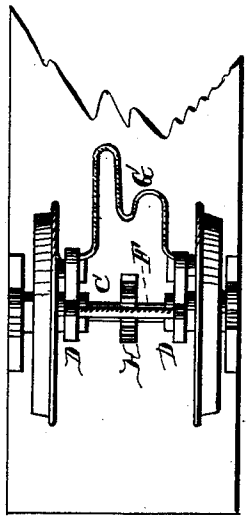


Fig 3

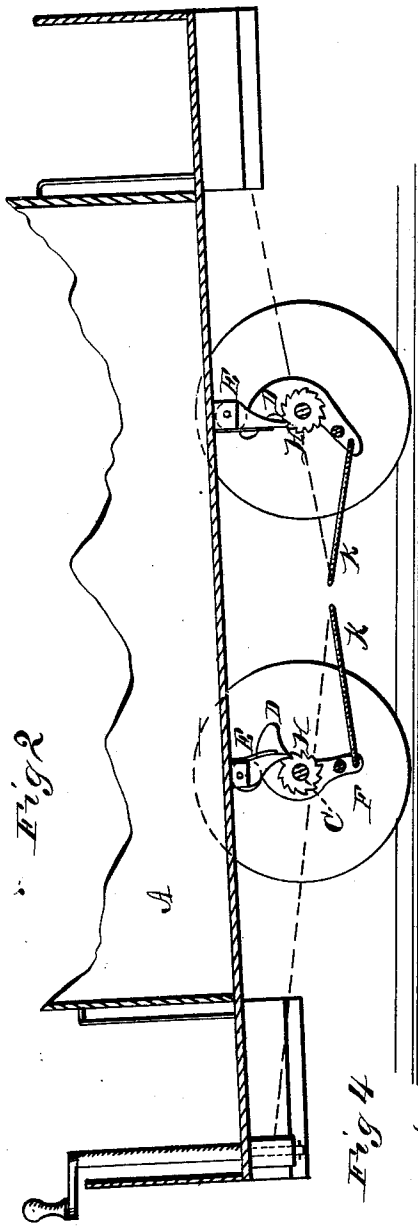


Fig 2

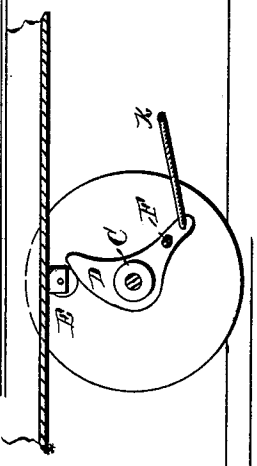


Fig 4

WITNESSES

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UNITED STATES PATENT OFFICE.

LYDIA W. HERMANCE AND JAMES DE WITT MOTT, OF MOSES KILL, ADMINISTRATORS OF CHARLES W. HERMANCE, DECEASED, ASSIGNORS OF ONE-HALF THEIR RIGHT TO ALBERT S. BURDICK, OF SARATOGA SPRINGS, NEW YORK.

IMPROVEMENT IN CAR-STARTERS.

Specification forming part of Letters Patent No. **191,801**, dated June 12, 1877; application filed April 30, 1877.

To all whom it may concern:

Be it known that CHARLES W. HERMANCE, late of Troy, in the county of Rensselaer and State of New York, did invent certain new and useful Improvements in Car-Starters; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, forming part of this specification.

This invention relates to certain improvements in apparatus for starting street-cars to relieve the horses of the great strain consequent thereupon; and it consists in an improved device consisting of a set of levers attached to the car-axles, and capable of being operated by the driver or conductor in such manner as to lift either end of the car above its respective axle, said axle being provided with a fixed ratchet-wheel, into which a pawl attached to the bottom of the car engages in such manner that as the car settles by its own weight to its original position it will rotate the wheels and commence to move.

In the drawings, Figure 1 represents a side elevation of a street-car with the improvement applied; Fig. 2, a sectional view of the lower portion of the car, showing one end elevated and ready to put the wheels in motion; Fig. 3, a detached view from the bottom, showing the invention as applied to one of the car-axles; and Fig. 4, a detached view, showing one of the lifting-levers and the friction-roller against which it works.

The letter A represents the body of the car, and B B the standards on each side, in which the axles are journaled. These standards are slotted, as shown in Fig. 1, in order that the car may be elevated over the axles, which are journaled in said slots. To each axle C, near its end, is pivoted a lever, D, the upper end of which forms a cam bearing against a friction-roller, E, secured in bearings attached to the bottom of the car. The levers of each axle are secured together at their lower ends by means of a connecting-rod, F, and to said ends is secured a bent link, G. Each link G is so shaped as not to interfere with the opposite link in raising the car. Each axle is provided with a fixed ratchet-wheel, H; the wheels on the opposite axles turn in opposite directions, so as to start the car in either direction by elevating the proper end. Directly above said ratchet-wheels, attached to the bottom of the car, is a pawl, I, one for each of said wheels, gearing into the same as the car falls, and slipping the teeth as it is elevated, as will be readily understood. From each link G is extended a rope or chain around the lower end of the shaft of an ordinary brake-wheel, K, by means of which the driver or conductor may operate the device.

When the car is to be started, it is only necessary to elevate the front end of the same by turning the brake-wheel. This operates the levers, causing the cams at their upper ends to raise the car. When sufficiently elevated the brake-wheel is released, and the car returns to its original position by its own weight, rotating the front wheels in doing so by means of the pawl and ratchet-wheels, being thereby started in proper direction.

Having described the invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination of the levers D D, secured to the axle of the car, and the friction-rollers on the bottom of the car, to operate substantially as and for the purposes described.

2. The combination of the pawl secured to the bottom of the car, and the ratchet-wheel on the axle, to operate as and for the purposes set forth.

3. The combination of the levers with the friction-rollers and pawl secured to the bottom of the car, and the ratchet-wheel attached to the axle, substantially as and for the purposes set forth.

In testimony that we claim the foregoing we have hereunto set our hands and seals this 22d day of March, 1875.

LYDIA W. HERMANCE. [L. S.]
JAMES DE WITT MOTT. [L. S.]

Witnesses:
LINUS D. BISHOP,
M. J. MOTT.