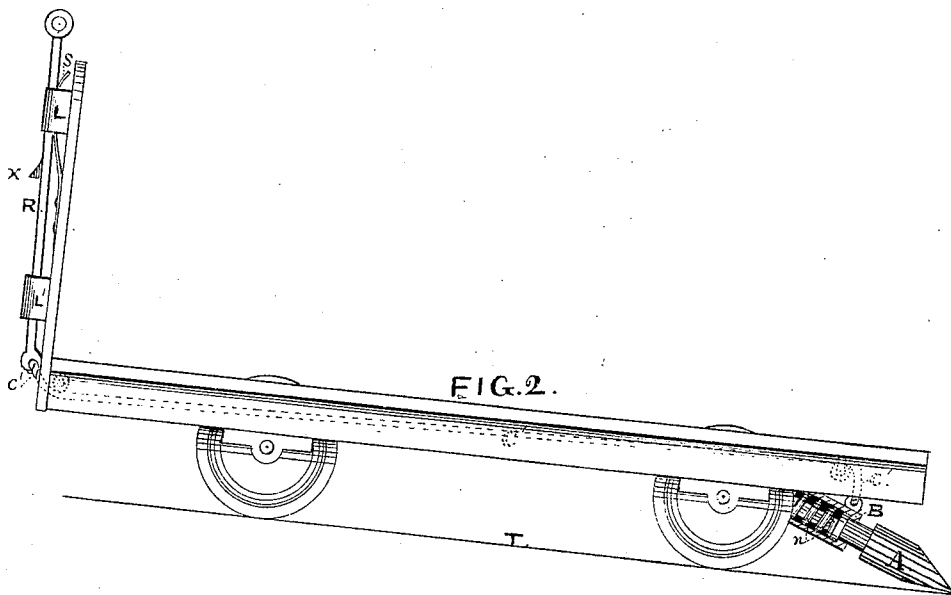


Car-Starters.

Patented April 28, 1874.

FIG. 1.



WITNESSES

WITNESSES:
Charles Jackson }
Anne C. McLean }

INVENTORS:

INVENTORS:
George I. C. Ransom
Michael Doyle
By J. P. McLean, Atty.

UNITED STATES PATENT OFFICE.

GEORGE D. C. RANSOM AND MICHEAL DOYLE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN CAR-STARTERS.

Specification forming part of Letters Patent No. 150,188, dated April 28, 1874; application filed August 8, 1873.

To all whom it may concern:

Be it known that we, GEORGE D. C. RANSOM and MICHEAL DOYLE, of the city of Brooklyn, in the county of Kings and State of New York, have invented a certain novel and useful Device for Stopping and Starting Railroad-Cars or other Carriages while going up an inclined plane or roadway; and we hereby declare in what manner the same is constructed, arranged, and operated by a full, clear, and exact description thereof, reference being had to the accompanying drawings, which are lettered to correspond with and form a part of the specification.

To enable the public to understand the nature of our joint invention, and those skilled in the mechanic arts to construct and operate the same, we will describe as follows, to wit:

Figure 1 is a perspective view of a railroad-car, turned bottom upward to show the manner of attaching our improved stop or foot A, operating upon a stiff axis or shaft, D, oscillating in bearings 1 and 2, secured to the frame-work F F under the bottom of the car. The shank of said foot A moves freely up the sleeve B to act upon the stiff spiral or any other suitable spring arranged in the socket B, or otherwise, to assist in starting the car in proportion to the strength of said spring. C is any suitable rope or chain, having one end fastened to the sleeve B at the stop or foot A, and passing under and over any suitable number of pulleys, which are secured to the bottom of the car. The other end of the rope is fastened to the bottom or foot of the handle or rod, at the opposite or front end of the carriage, as shown at C', Fig. 2, which is a side elevation of a railroad-car, upon an inclined way, T, held in position by the stopping-foot A, and showing the arrangement of the starting-spring n in the socket or sleeve B, to act in conjunction with the horses and the bearing-foot A; also showing the rod R, with lip X, flat spring S, to push and hold the rod R in the loops L L' when the foot is raised

off the track or road to allow the car to move backward; also showing, in dotted lines, the chain or rope C passing under the car.

We would here state that we are aware that a ratchet upon the axle of a railroad-car, with pawl, lever, foot-rod, and lifting-spring, arranged to operate together, also a combination of levers attached to the draw-head of a railroad-car, are in common use for starting the car, when operated by the driver, as set forth and shown in patents numbered 47,722 and 141,159; therefore we do not claim these combinations as forming any part of this application; but the novelty of our joint invention consists in the construction and arrangement of a short independent axis, D, whose bearings are secured to the frame-work F of the bottom of the car or wagon, which is provided, at the center thereof, with a short sleeve or cylinder, B, forming an integral part of the axis D itself, at right angles to the same. This sleeve contains within itself any suitable spring, of either rubber, compressed air, or metal, to operate against the head of the stop or foot A, which freely moves longitudinally in the sleeve B, for the ostensible purpose of stopping; and then assisting the team to start, the car or wagon upon either the rail or common road; therefore

What we claim as new and useful, and wish to protect by Letters Patent of the United States, is—

The combination of the axis D and sleeve B with the stop A, to operate automatically with spring S in the sleeve B, for the purpose of stopping; and to assist in starting, the car, substantially as set forth.

In testimony whereof we hereunto subscribe our names in the presence of two witnesses.

GEO. D. C. RANSOM.
MICHEAL DOYLE.

Witnesses:

JAMES P. McLEAN,
ANNE S. McLEAN.