(No Model.) 2 Sheets—Sheet 1.

C. T. SNEDEKOR.

GRIP CAR.

No. 402,361. Patented Apr. 30, 1889.

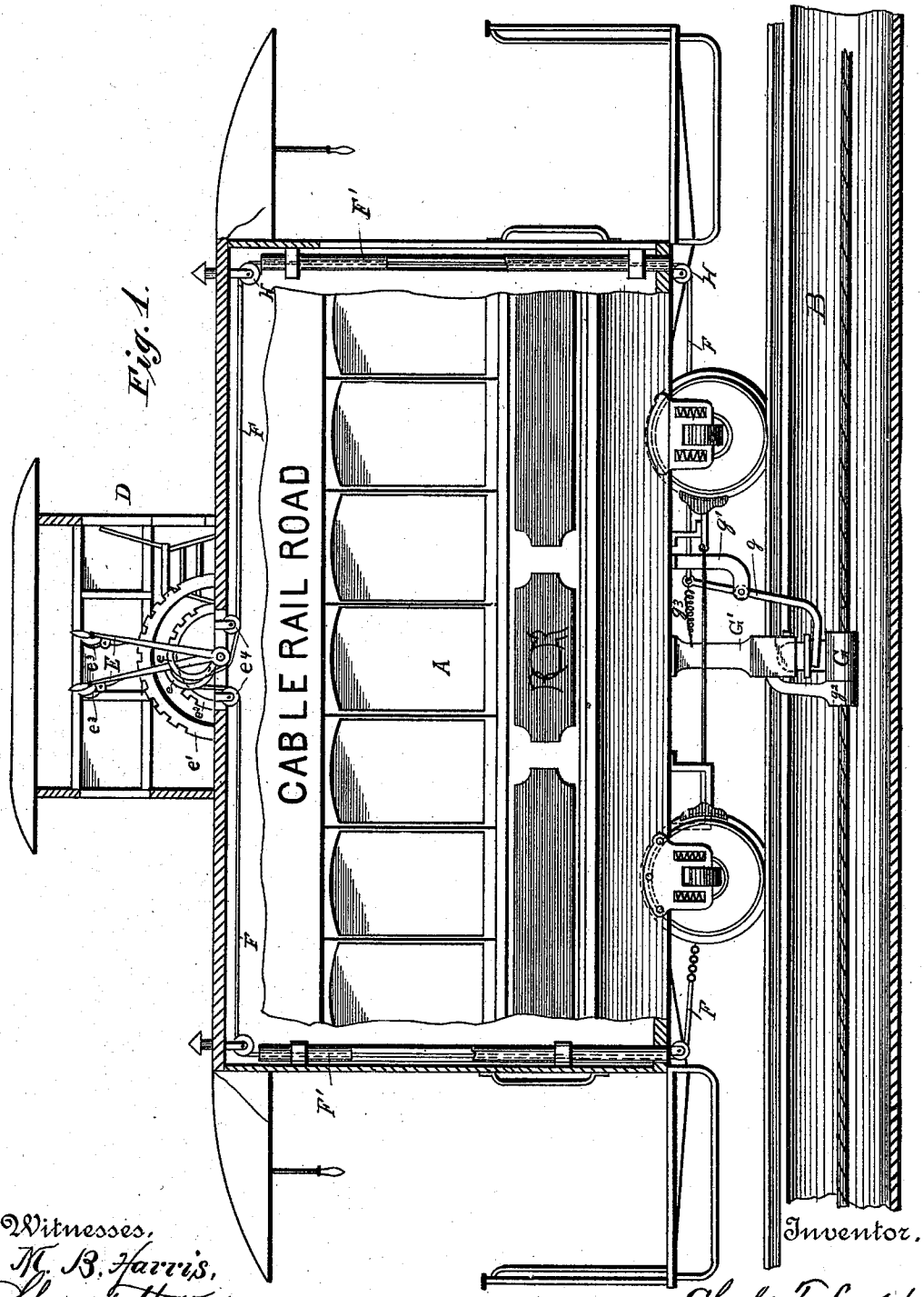


Fig. 1.

Witnesses.
M. B. Harris.
Charles F. Maitland

Inventor.
Charles T. Snedekor
By his Attorney
L. S. Bacon.

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

C. T. SNEDEKOR.

GRIP CAR.

No. 402,361. Patented Apr. 30, 1889.

Fig. 2.

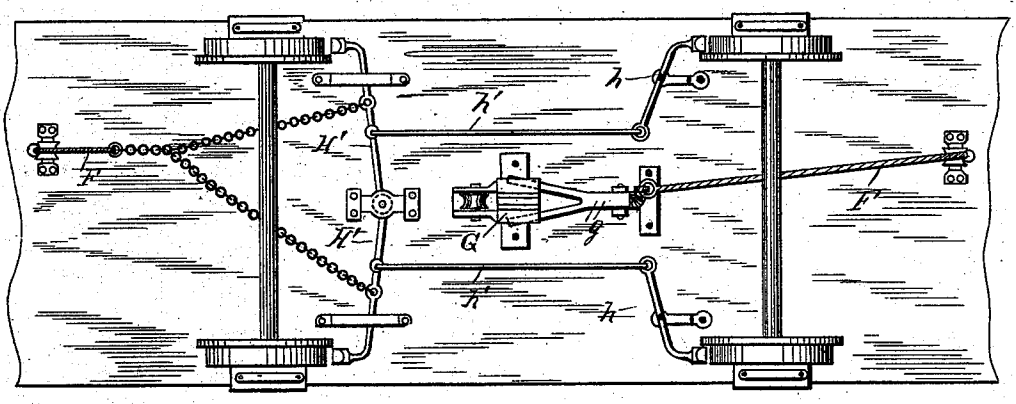
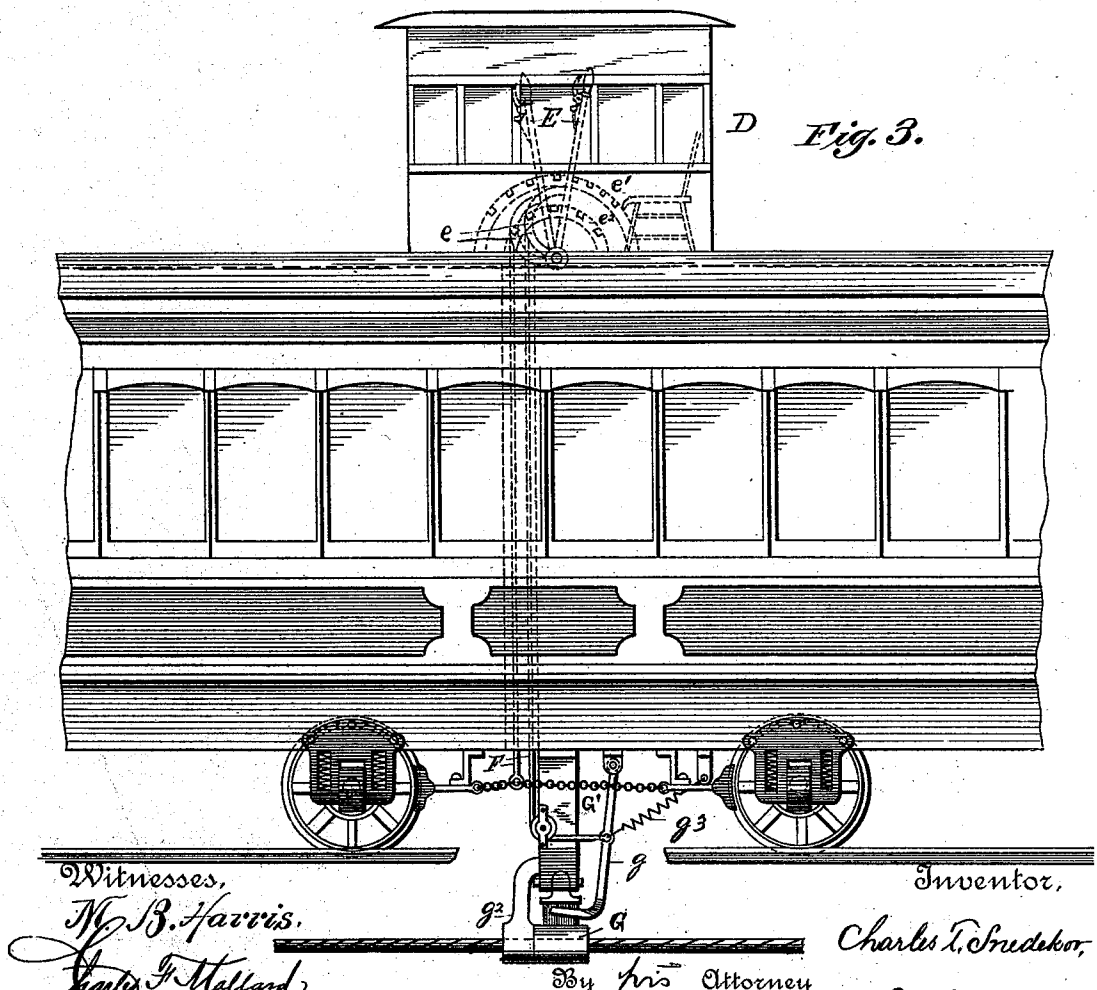


Fig. 3.



Witnesses,
M. B. Harris.
Charles F. Mallard

Inventor,
Charles T. Snedekor,
By his Attorney
L. S. Bacon

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES T. SNEDEKOR, OF NEW YORK, N. Y.

GRIP-CAR.

SPECIFICATION forming part of Letters Patent No. 402,361, dated April 30, 1889.

Application filed December 19, 1888. Serial No. 294,067. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. SNEDEKOR, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Grip and Brake Operating Devices for Street-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved grip and brake mechanism for cable-railway cars; and it consists in the peculiar construction, combination, and arrangement of parts, hereinafter described, and definitely pointed out in the claims.

The object of my invention is to arrange and construct the car-controlling mechanism so that it may be worked from an elevated position, thereby adding to the capacity of the car and affording a greater range of vision for the gripman or manipulator than has been heretofore afforded. I attain this object by the construction illustrated in the accompanying drawings, wherein like letters of reference indicate corresponding parts in the several views, and in which—

Figure 1 is a side elevation of my improved car, partly broken away. Fig. 2 is a bottom plan view. Fig. 3 is a view of a modified form.

In the drawings, A represents the car, and B the conduit containing a cable.

The car is of any desired form of construction necessary to the uses of city transportation.

It is a well-known fact that as street-cars are now constructed the gripman or manipulator of the traction or power mechanism is placed in a position which greatly affects the convenience of passengers, and also occupies a considerable space which otherwise should be added to the capacity of the car. In many cases, especially where the operator occupies a position in the center of the car, the capacity for passengers is diminished to the extent of six to ten, thereby causing a considerable loss to the company, and, further, by the old forms the ingress and egress of passengers are more or less obstructed and are generally limited to one end of the car only. To overcome these objections and to, as above stated, arrange the operator or gripman in a more advantageous position is the principal feature and aim of my invention, and the means and arrangements whereby I accomplish this result I will now fully describe.

At the center of the top of a car is constructed a stall or compartment, as D, having capacity for the operator or gripman, and into which are extended or placed the long arms or ends of hand-levers E, for operating both the grip and brakes. These levers are pivoted at their lower ends to the frame, and have semicircular racks or projections *e* secured to their forward edges near their lower ends, which are grooved to secure the operating-cord, which is secured to the lever proper at the upper end of the racks.

e e' e² represent curved rack-bars secured to the top of the car, in which work catches or paws, (not shown,) operated by the hand-piece e^3, to retain the levers in their adjusted positions. An opening is made in the top of the car through which the cords pass over pulleys e^4, secured at the respective ends of the opening to the top.

The mechanism interposed between the grip, which is designated at G, consists of a bell-crank lever, *g*, having a forked end secured on the under side of the car to a pendent arm, *g'*, the connections with the lever E being made by a suitable cord, chain, or rope, F, which extends along the top of the car and passes through suitable hollow posts or pillars, F', at the corners, the turns or bends of the cords being made by passing them over suitable pulleys, H, or other mechanism located, respectively, at the top and bottom of the car. The grip G is pivoted to a pendant, G', which enters the conduit, and consists of two jaws, which grasp the cable where the forked end of lever *g* is brought in contact therewith, the arms of the forks forcing the jaws together. g^2 is a brace for the jaws. g^3 is a spring for forcing the lever *g* back.

The brake-mechanism connection is substantially the same as that of the grip, the connecting-cords extending to and down the opposite end of the car, it being operated by the other hand-lever in the compartment D.

The brake mechanism consists of a series of levers, H' *h*, arranged, respectively, at the

front and rear portions of the car on its under side, having brake-shoes on their ends, and are connected by bars h' and pivoted to the bottom of the car, they being connected by a chain to the operating-cord.

I have shown in Fig. 3 of the drawings a modified form of operating mechanism, which consists of extending the connecting-cords down the sides of the cars instead of the ends. It is also apparent that vertical rods with suitable gearing may be employed in lieu of the above-described means. It will thus be seen that the essential feature and principle of my invention is in locating the operating-handles at the top of the car and providing a stall or cab at this point for the operator or gripman.

In constructing my car in the manner described I am enabled to effectually close the same on all sides, thus obviating the objections heretofore expressed in necessitating open cars in the winter season.

I am aware that many minor changes in the construction and arrangement of the parts of my device can be made and substituted for those shown and described without in the least departing from the nature and principle of my invention.

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

1. The combination, with a moving cable of a street-railway system and a car, of brake and grip mechanism on the under side of the car, a compartment on the top of the car, and levers in the compartment having connection with the mechanism below the car for controlling the movement of the same, substantially as described.

2. The combination, with a car of a cable system of street-railways, having its interior arranged for the reception of passengers, of a cable-gripping device on the bottom of the car, and mechanism located on the top of the car having connection with the gripping device for operating the same, substantially as described.

3. In a street-car for cable roads, the combination, with the top, of a compartment centrally located thereon, operating-levers in the compartment, brake and grip mechanism below the car, and means secured to the levers and extending in opposite directions to the bottom of the bar for connecting the levers with the brake and grip mechanism, substantially as described.

4. The combination, in a street-car for cable roads, of brake and grip mechanism on the bottom thereof, levers on the top of the car having connection with the brake and grip mechanism, and tubes on the car through which the connecting means of the levers and brake and grip mechanism pass, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES T. SNEDEKOR.

Witnesses:

L. S. BACON,

H. D. FINCKEL.