(No Model.)

A. McGILL.

STREET TRAM CAR.

No. 583,764. Patented June 1, 1897.

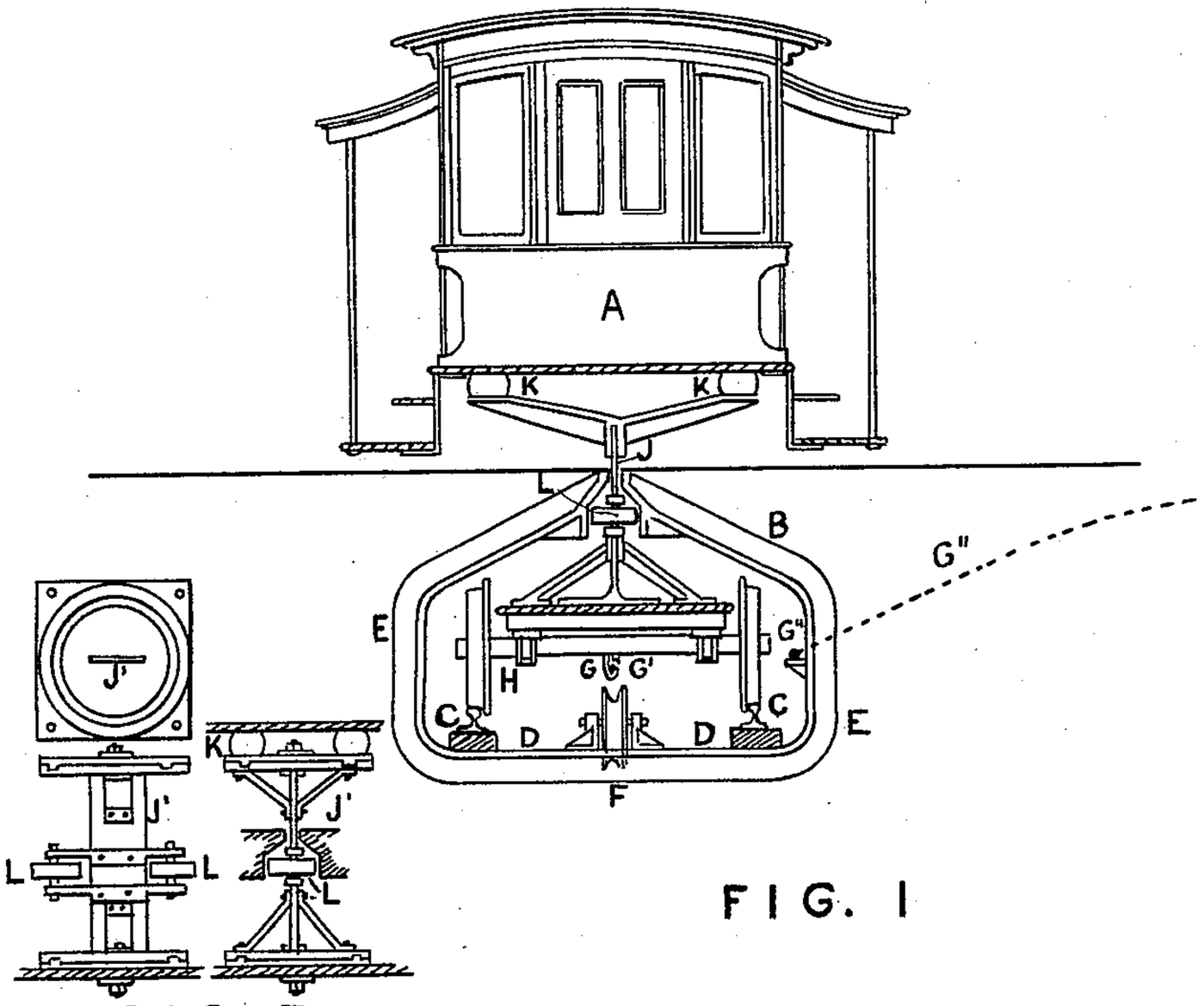

FIG. 1

FIG. 3

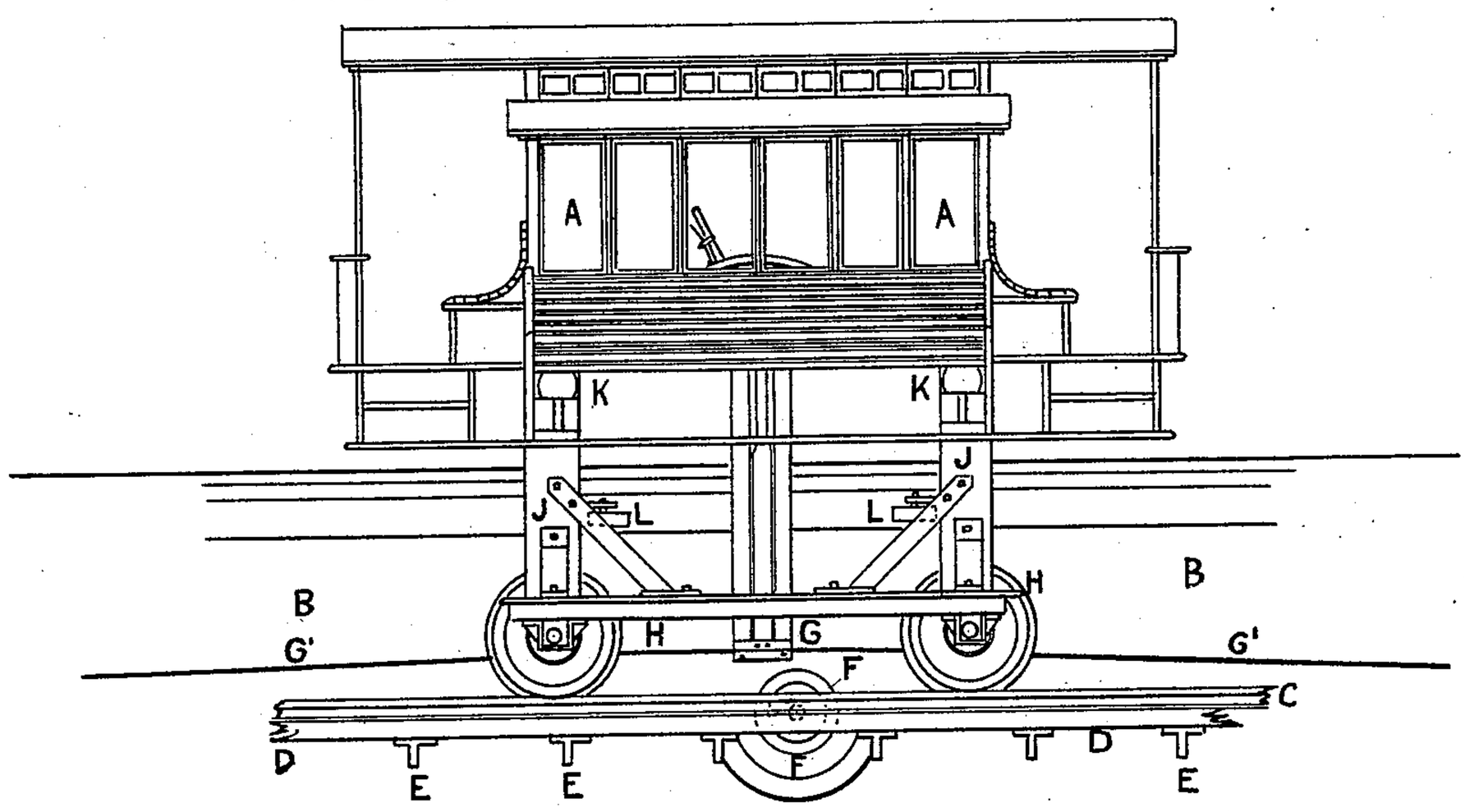

FIG. 2.

Henton Macaulay Davey

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UNITED STATES PATENT OFFICE.

ANDREW McGILL, OF DUNEDIN, NEW ZEALAND.

STREET TRAM-CAR.

SPECIFICATION forming part of Letters Patent No. 583,764, dated June 1, 1897.

Application filed December 29, 1896. Serial No. 617,330. (No model.)

To all whom it may concern:

Be it known that I, ANDREW McGILL, builder and contractor, a subject of the Queen of Great Britain, residing at 31 Moray Place, in the city of Dunedin, in the British Colony of New Zealand, have invented new and useful Improvements in Street Tram-Cars, especially for cable or electric cars, of which the following is a full, clear, and exact description, which will enable others skilled in the art to which it appertains to make and use the same.

The object of this improvement is to produce a street tram-car that requires no grooved rails, no rails on the street, and that is not liable to be jolted by stones or to run over persons and crush them, and one that runs more smoothly than is now often the case, as stones or such like are not liable to get on the rails. This is effected by making the tunnel now made for cable-cars rather larger than is now required and placing the rails in it (these would be preferably ordinary railway-rails) and running a strong trolley in and through the tube. The car is fixed to this trolley by broad but thin plates of metal, which run through the usual groove, as the gripper now runs, but with no wheels or rails to be seen, as there is nothing seen from the street but the continuous groove that now forms part of the present cable-car line. In a cable-line the gripper acts as now and as shown, and in cars propelled by any means the brakes are applied to the ironwork of the groove, as slipper or wedge brakes, or to the wheels or axles in the ordinary way, but to be connected from the brakes to the car, if the latter, by thin rods that pass through the slot as the gripper now does in cable systems. In electric cars the motor would be fixed to the trolley and the controlling rods or levers would go up through the said slot to the cars, and in any system it is obvious that the tube would be more convenient for carrying pipes or wires for any purpose than the present tubes, owing to their slightly-increased size, so that they can be entered.

Referring to the accompanying drawings, Figure 1 is an end view of any street-car combined with a section of the tube of a cable-car and showing the whole arrangement. Fig. 2 is a sectional elevation of the same, showing the cable and the working of the whole. Fig. 3 are details of a slight modification of the bar that supports the car to enable it to turn independently of either the trolley or the car if there are sharp curves in the line.

A is any form of street-car to which this invention may be applied.

B is the ordinary tube, but rather larger than is usual now, so as to give room for the trolley, rails, and the electric or traveling cable.

C are the rails, preferably best railway-rails, which will allow deeper flanges than general tram-flanges.

D are any sleepers, such as the longitudinal ones shown.

E E E are any ribs forming the framework of the tube, which may be lined, as now, in any desired manner. The top of these carry the plates forming the continuous slot, and preferably a lower slot, for guide-wheels L, to prevent friction of the plates against the sides of the slot.

F are the usual carrying-sheaves.

G is the gripper, made as usual, and G′ the traveling cable; G″, any cable, such as an electric cable, which could have branches, as shown dotted, to branch to buildings, as required.

H is the trolley, running in the tube, as shown, carrying the car by strutted bars passing up, as shown, and ending at the car by any springs K.

J are the uprights from the trolley to the car, and J′ are same, capable of turning in grooves and secured by bolts, so as to turn freely but without shaking. They are kept in position by the wheels L.

In this invention any suitable materials or sizes may be adopted.

Although only one trolley is shown on the drawings, there could be bogies or trolleys at each end where long cars are required. If the gripper was wanted in the center of the car, it would be on a sliding frame to allow of a side movement at curves. Otherwise it would be over one of the trolleys and as shown.

The turn-tables, Fig. 3, at the ends of the standards allow the same to turn freely in going around curves, and the rollers L L serve to control and guide the standards in this movement.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In combination with the subway with the tracks therein, the car, the truck running in the subway, the standards extending upward from the truck through the subway and having turn-tables at its upper and lower ends, and the rollers carried by the said turning standards, substantially as described.

2. In combination, the car, the subway, the truck movable therein, the standards extending up from the truck to the car, and the turn-tables at the ends of the standards connecting the same with the truck and the car respectively to allow the standard to turn, substantially as described.

Dated at Dunedin, in the colony of New Zealand, this 16th day of November, 1896.

ANDREW McGILL.

Witnesses:

HENTON MACAULAY DAVEY,

CHARLES EDWIN DAVEY.