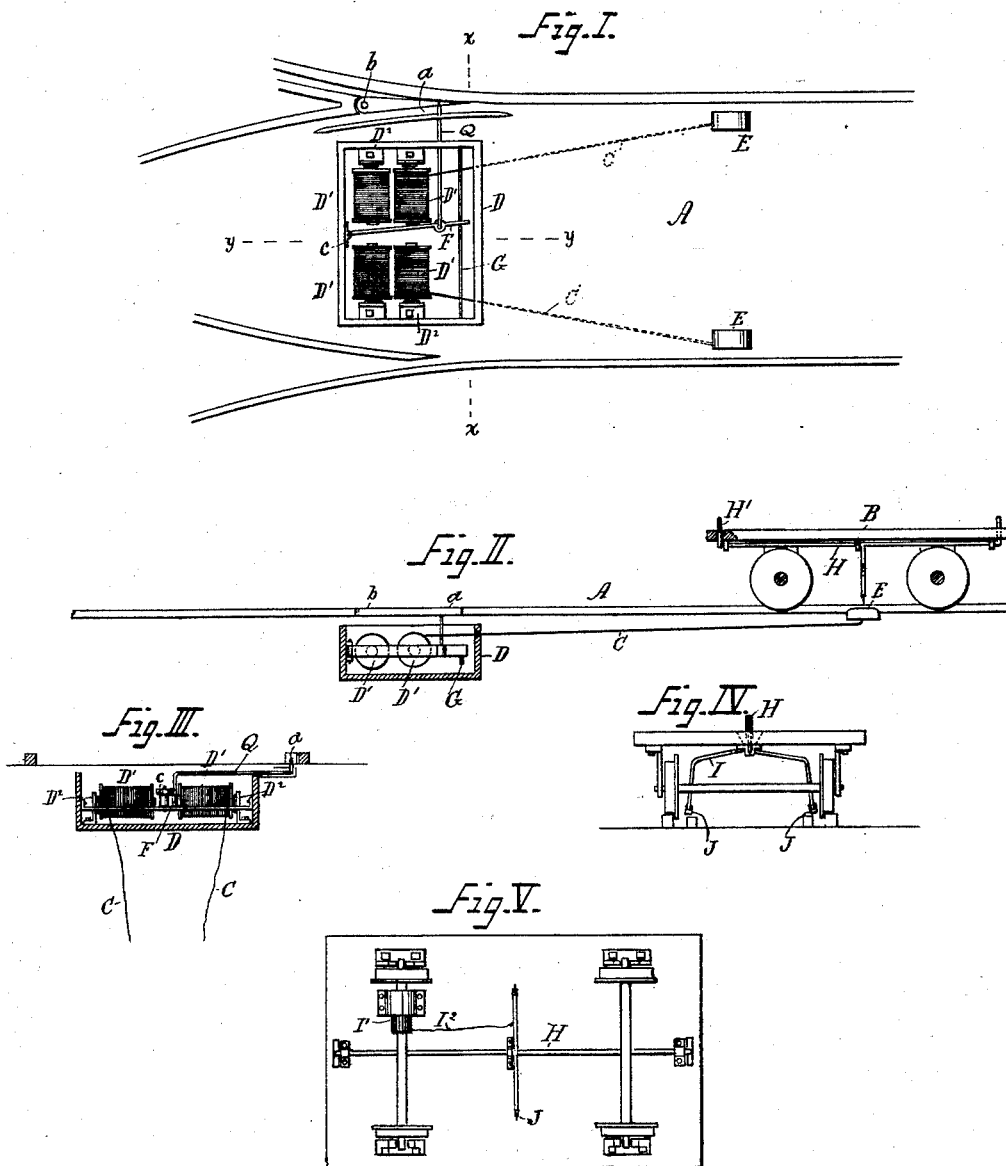


(No Model.)

T. A. REMSEN.
SWITCH FOR ELECTRIC RAILWAY CARS.

No. 524,532.

Patented Aug. 14, 1894.



WITNESSES:

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SWITCH FOR ELECTRIC-RAILWAY CARS.

SPECIFICATION forming part of Letters Patent No. 524,532, dated August 14, 1894.

Application filed June 2, 1893. Serial No. 476,339. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY A. REMSEN, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Switches for Electric-Railway Cars, of which the following is a specification.

My invention relates to that class of railway switches in which the switch tongue is set and re-set by the action of electro magnets energized, alternately, by a current from an approaching car; and it consists of the novel construction and arrangement of parts as hereinafter described and enumerated in the claim.

Figure 1. is a top or plan view of a device embodying my invention. Fig. 2. represents a side view partly in section through the line *y. y.* Fig. 1. Fig. 3. represents a horizontal section through the line *x x.* Fig. 1. Fig. 4. represents a view of the front end of the car showing the brushes in position. Fig. 5. represents an inverted plan view of the car showing the position and operation of the brushes.

Similar letters of reference indicate corresponding parts.

The letter A designates a rail-road track constructed with a switch-tongue *a* pivoted as at *b* in the usual manner at the point where a car is to be transferred from the main track to another or branch track, and B indicates a part of the body of a car which is supported upon wheels.

The letter D marks a box like casing made partly or entirely of wood, iron or any other suitable material and which is sunk in the ground midway between the tracks as shown in Figs. 1, 2 and 3. Arranged in the casing D are electro magnets D' in this example two in number, the outer ends of which are rigidly secured to the sides of the casing D by brackets D² while to the wires enveloping their cylindrical portions are attached one end of wires C, while the other ends of said wires are attached to projections E forming contact points between the track about a car's length from the casing inclosing the magnets.

The letter F designates the armature lever

arranged between the magnets having one end pivoted to the inner side of the casing D as at *c* and the other end portion is connected to the free end of the switch tongue *a* by a suitable rod Q extending laterally from the armature lever to the switch tongue through a suitable opening in one side of the casing, while the outer or fore end rests and slides upon a cross bar G when said lever is acted upon by the electric current through the magnets.

The rod Q extends laterally from the armature lever and its point of connection thereto is within the end of the lever; and the bar G, which practically constitutes a guide for the lever, is an independent feature of the casing and the magnets therein.

Referring to Figs. 2, 4 and 5 the letter H designates a rock shaft journaled at each end and in the center at the bottom of the car with foot lever H' suitably insulated on each end thereof extending up through openings in the floor of the car. The letter I indicates an approximately inverted U shaped brush holder connected to a motor I' by a wire I² and having suitable brushes J at each end thereof, and which is mounted on the shaft H so as to turn with it so that either brush can be brought in contact with one of the projections E between the track by the driver moving the foot-lever H' in one direction or the other thereby completing the current and actuating the switch so as to transfer a car from one track to another as may be desired.

The electro magnets D' are placed with their poles opposite each other, and the armature lever F lies between said poles, so as to be attracted by one or the other magnets as it is energized by the current from the car.

An important feature of my invention is the connection of the armature lever F to the switch tongue at a point near or within the free end thereof instead of at such end for permitting its proper engagement with the guide bar G at the point last named, and another important feature thereof is the independent and detached condition of the guide bar G relatively to the armature lever for minimizing the friction between the rod and lever.

What I claim as new, and desire to secure by Letters Patent, is—

The combination with a railway having a main track, a branch track and a switch tongue, of a casing located between the rails of the main track, electro-magnets arranged in said casing with their poles opposite each other, an armature lever pivoted within the casing and having lateral play between the inner ends of the electro magnets, a rod connecting said armature lever to the free end

of the switch tongue, a cross bar arranged in said casing and supporting the free end of the armature lever in the same horizontal plane as the switch tongue, and means for energizing said electro magnets to operate the armature lever and connected switch tongue, substantially as described. 15

TIMOTHY A. REMSEN.

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