

(No Model.)

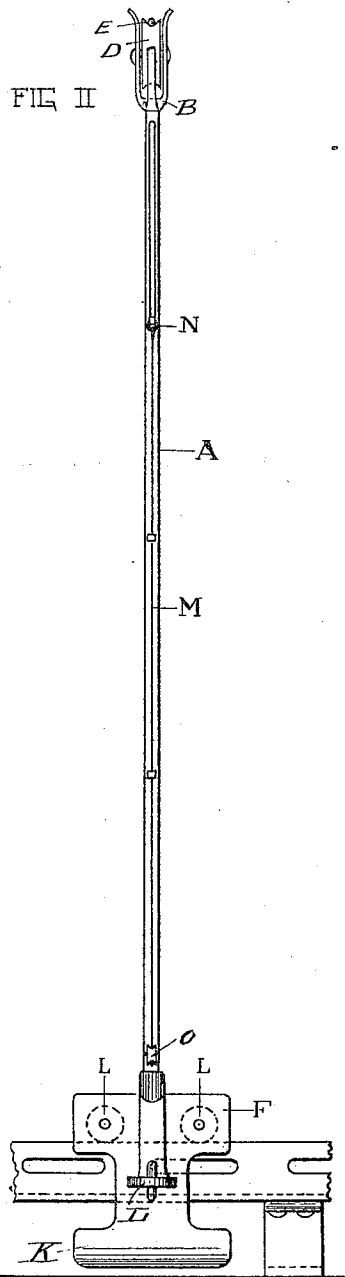
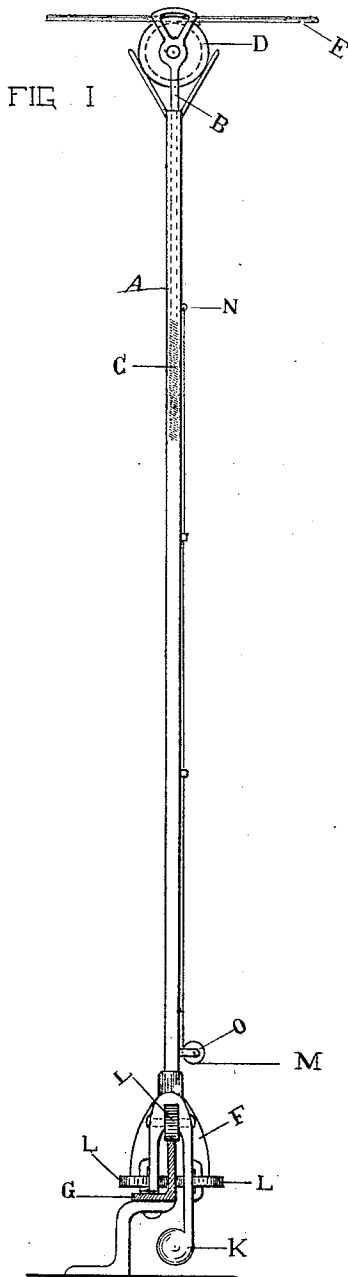
3 Sheets—Sheet 1.

J. L. BLACKWELL.

CONTACT DEVICE FOR OVERHEAD ELECTRIC RAILWAYS.

No. 529,354.

Patented Nov. 20, 1894.



WITNESSES

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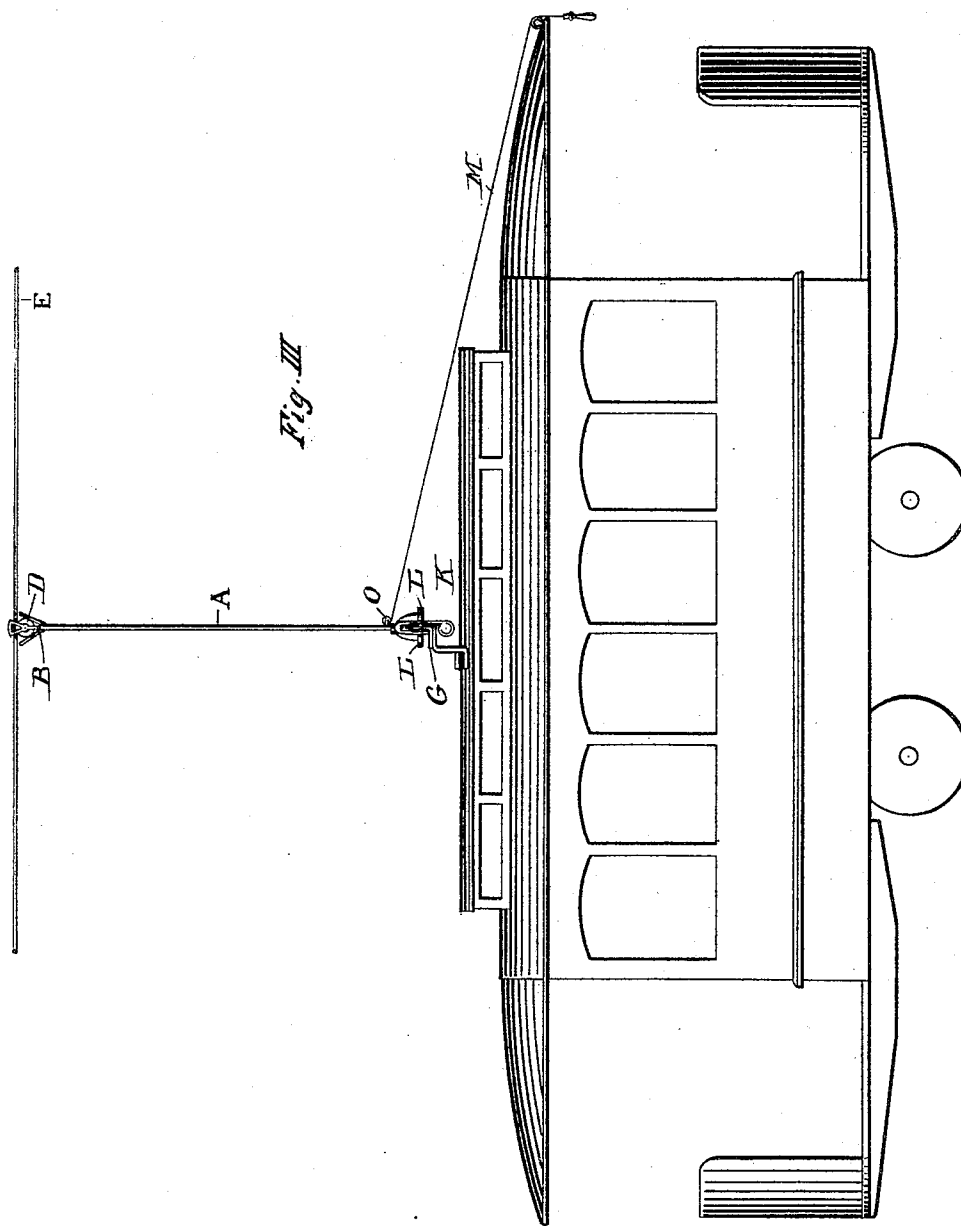
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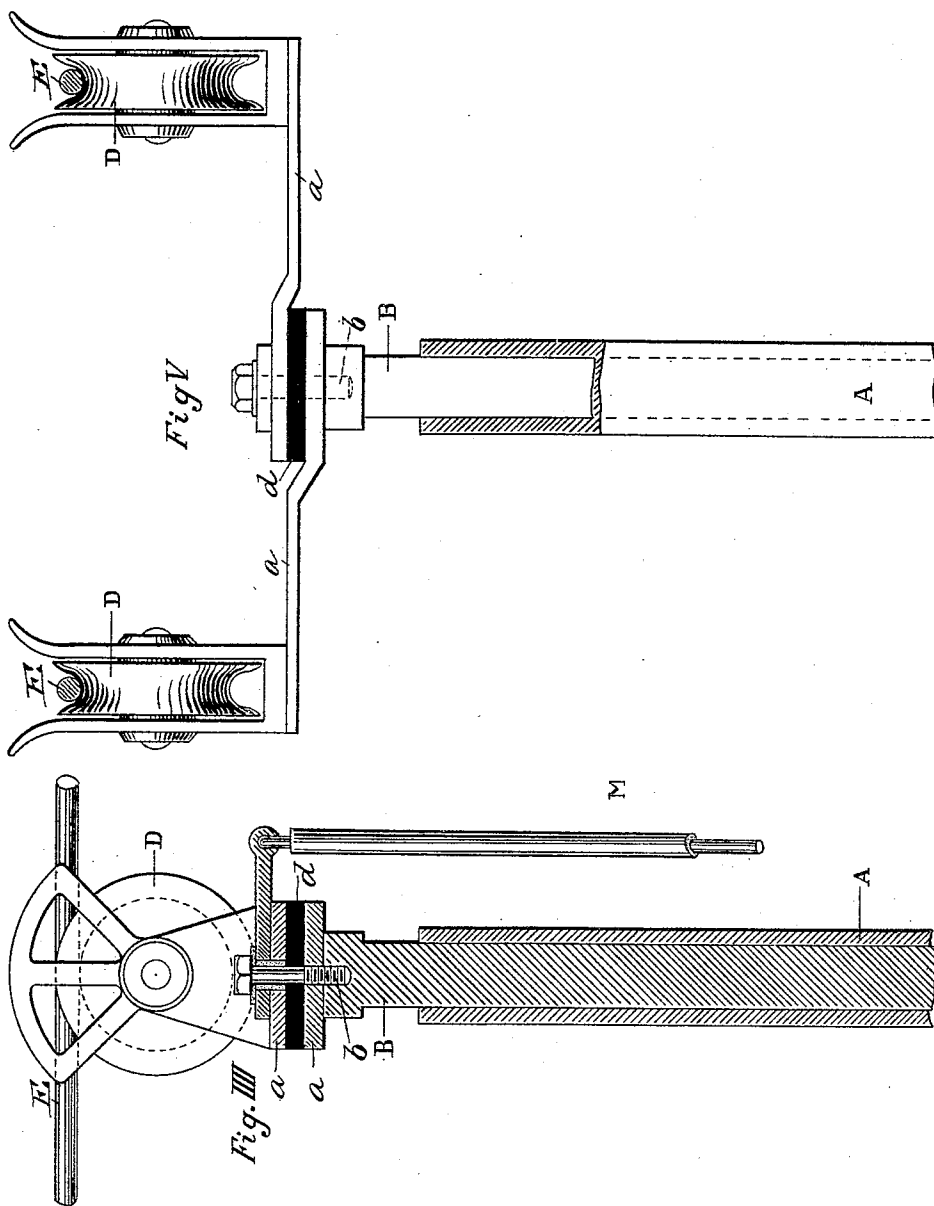
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UNITED STATES PATENT OFFICE.

JOSIAH L. BLACKWELL, OF NEW YORK, N. Y., ASSIGNOR TO THE THOMSON-HOUSTON ELECTRIC COMPANY, OF CONNECTICUT.

CONTACT DEVICE FOR OVERHEAD ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 529,354, dated November 20, 1894.

Application filed September 15, 1888. Serial No. 285,512. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH L. BLACKWELL, 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 Contact Devices for Overhead Electric Railways, of which the following is a specification.

My invention relates to electric railways, wherein the supply conductor consists of a suspended overhead wire, and it pertains especially to means for maintaining the electrical connection between the supply wire and the vehicle on the roadway.

In the accompanying drawings Figure I is a side elevation of my contact device; Fig. II, an end elevation thereof. Fig. III shows the same applied to a car, and Figs. IV and V are details.

Referring to the drawings it will be seen that the invention consists in placing upon the roof of a car a mast or pole provided at its upper end with a contact for engagement with a supply wire, and having at its lower end a transversely traveling connection with the car through a guide and traveler, movable freely along the guide.

A, represents a rod preferably formed of a hollow tube of brass or iron. In the upper end of the tube is a piston B resting on a spring C which tends constantly to force it out of A.

D is a roller, or other suitable contact device adapted to bear against the overhead supply wire E, being held in contact therewith by the upward pressure of spring C.

The lower end of the rod A terminates in a traveler F adapted to ride upon transverse guide G and being supplied, if desired, with a counterweight K and friction rollers L. The counterweight and friction rollers facilitate the movement of the traveler upon the guide, so that it will respond to a slight pressure of wire E against roller D when there is a curve or turn in the wire relatively to the track. For manipulating this device a cord M is attached to an eye N on piston B, the eye projecting through a slot in one side of rod A. The cord M extends down along rod A to a pulley O and is then led to the platform or other fixed point of the vehicle. To

free the contact device from the wire, it is only necessary to pull on cord M which depresses the contact wheel until its curve is below wire E. The device can then be pulled to one side until it comes off from the end of transverse guide G. In case two supply conductors are employed a second contact wheel D may be carried by piston B, but insulated therefrom as shown in Figs. IV and V. In these views "A" is a rod, "B" the piston, and "a, a'" are two metallic arms insulated from each other at "d" and fastened to the piston by a screw or bolt "b." The arms "a, a'" extend out laterally from the piston to points in line with the two supply wires and carry contacts "D, D" engaging the wires respectively. In this construction the cord "M" will consist of a wire connected mechanically to the piston through screw "b" and in circuit with one of the contacts "D" but insulated from the other; as is apparent from the construction shown and described. One contact "D" will then be in circuit with the motor through piston "B" and rod "A," while the return circuit from the motor to the second contact "D" is formed by the wire "M," as above described.

The piston B may extend above the bearing on wheel D if desired, to form a guard extending above the wheel and the wire and assisting to keep the wheel in place upon the wire E.

What I claim as new, and desire to cover by the patent, is—

1. The combination with an electrically propelled vehicle and a transverse guide thereon of an overhead supply wire and an intermediate contact device, bearing on the under side of the wire consisting of a rod having a transversely traveling movement along said guide, and provided at its upper end with the contact device adapted to be held in contact with a supply wire, and guided thereby.

2. The combination with an electrically propelled vehicle of an overhead supply wire and an intermediate contact device consisting of a rod, having a transversely traveling connection with the vehicle at its lower end and provided at its upper end with a contact piece and a spring therefor pressing it upward against the under side of the supply wire.

3. The combination with an electrically propelled vehicle of an overhead supply wire and an intermediate contact device, consisting of a rod held in a vertical position and provided with a transversely traveling connection with the vehicle at its lower end and having at its upper end an extensible contact piece, held by spring pressure against the under side of the supply wire.
4. The combination in a contact device for an overhead supply wire, of a rod and contact piece, thereon, movable relatively to the rod, a spring for holding the contact piece against the supply wire, and a cord leading from the said contact piece to a fixed point on the vehicle whereby the contact piece may be pulled down relatively to the rod against the spring.
5. The combination in a contact device for two overhead supply wires of a rod, two contact pieces supported thereby and held by spring pressure against the two supply wires respectively, and a flexible wire forming part of the circuit and attached to one of said contact pieces, and leading to a fixed point of the vehicle so as to be employed for manipulating the contact device.
6. The combination in a contact device for an overhead supply wire, of a rod having a hollow end, a piston carrying the contact piece and forced by spring pressure against the supply wire, and a cord attached to the said piston leading to a fixed point of the vehicle.
7. The combination in a contact device for an overhead supply wire of a vertical rod attached to a vehicle, a vertically moving contact piece at the end of said rod adapted to be held by spring pressure against the supply wire, and a cord leading from the said contact piece to a fixed point of the vehicle.
8. The combination with an electric railway car, of a hollow support rising from its roof, a rod sliding in the support and carrying a trolley for making underneath contact with a conductor, means for forcing the rod upward and a cord for drawing it down.
- JOSIAH L. BLACKWELL.
- Witnesses:
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