

(No Model.)

R. M. HUNTER.
ELECTRIC RAILWAY.

No. 439,069.

Patented Oct. 21, 1890.

FIG. 1.

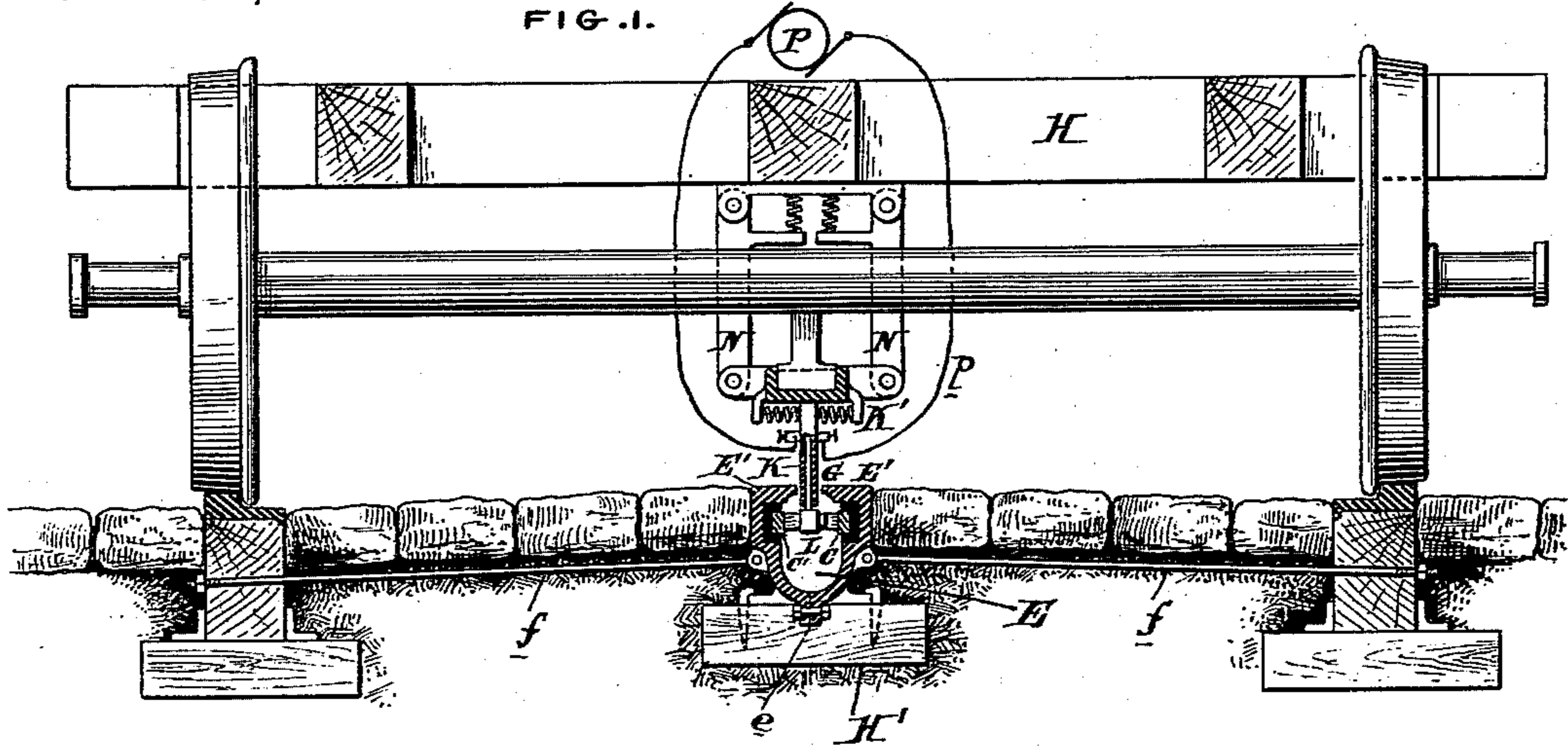


FIG. 2.

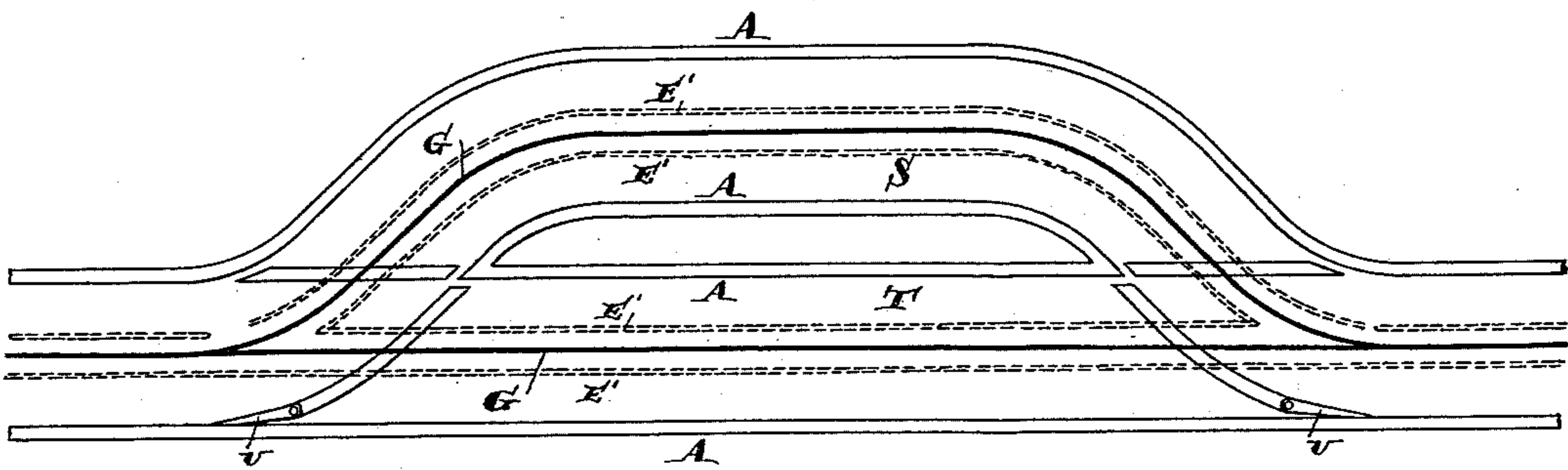


FIG. 3.

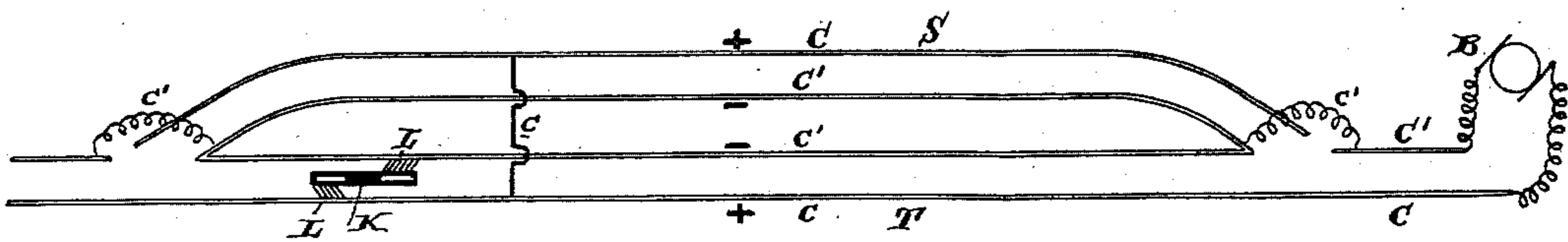
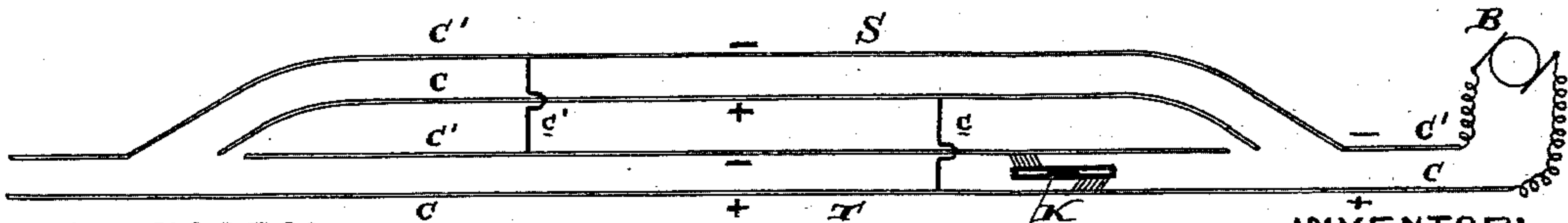


FIG. 4.



WITNESSES:

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ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 439,069, dated October 21, 1890.

Original application filed July 14, 1885, Serial No. 171,625. Divided and this application filed March 12, 1889. Serial No. 302,945.
(No model.)

To all whom it may concern:

Be it known that I, RUDOLPH M. HUNTER, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Electric Railways, (Case 86,) of which the following is a specification.

My invention has reference to electric railways; and it consists of certain improvements which are fully set forth in the following specification, and shown in the accompanying drawings, which form a part thereof.

This application (Case 86) is a division of my application filed July 14, 1885, Serial No. 171,625.

The object of my invention is to provide an electric railway with a branch track or turn-out and in which the conductors for supplying the current to the car are separate from the rails for the supporting-wheels of the vehicle or car. The tracks are laid substantially as is customary with the usual switches and branches or turn-outs, and are supplemented by one or more separate or independent current-supplying conductors, which may be arranged within a conduit or otherwise, and adapted to allow of a moving contact being made therewith by a suitable current-collecting device carried by the car traveling on the tracks. It is also evident that as there is considerable difficulty in laying the conductors parallel with the track the collecting device should be made to have a lateral movement independent of the car-wheels to compensate for such unevenness.

While I have spoken of a main line and branching or siding tracks, it is to be understood that such branch or siding tracks are second railway-tracks, so that my invention, broadly considered, comprehends two railway-tracks, each of which is provided with one or more conductors for supplying electric current to the car supported upon the track-rails and in which the conductor or conductors of the two tracks are electrically connected together.

In the drawings, Figure 1 is a cross-section of an electric railway and car embodying my invention. Fig. 2 is a plan view of a branch-

ing railway or turn-out, and Figs. 3 and 4 show plan views of the working-conductors which are employed on the branch or turn-out and main line when embodying my invention.

A A are the two rails of the main track T and branch track or turn-out S, and these rails may have the usual switch-points U. Arranged parallel to these tracks is shown the conduit E, formed of the two sections E' E', bolted together at *e* and forming the slot G at the top and made branching, as in the case of the rails. The conduit is supported upon blocks H', and is tied to the stringers of the rails by rods *f*, by which a more or less fixed location is given to the conduit with reference to the rails. C C' are the conductors, one of which is connected with the positive pole of the generator B and the other with the negative pole of the generator. These conductors C C' may have vertical or substantially vertical faces. The branch or turn-out is provided with a similar conduit to that of the main line furnished with conductors, and these conductors thereof are connected electrically with the similar main-line conductors by connecting-conductors *c c'* or otherwise. By this means the conductors of similar polarity on both the main line and branch or turn-out are in multiple connection. The conductors of the main line and turn-out or branch are open at both ends to allow the free passage of the collector device from one pair of conductors to the other pair. The only difference between Figs. 3 and 4 is that the polarity in the conductors of the turn-out in one case is the reverse of what it is in the other case. H is the car or vehicle, of any construction, having the usual supporting car-wheels for running upon the rails A. Suspended below the car in any suitable manner is a laterally-movable frame K', sustained by links N. Projecting down from this laterally-movable frame is a vertical plate or collector-frame K, which extends down through the slot G of the conduit, (when used,) and is provided on the bottom with brushes or contacts L L for making a sliding contact with the con-

ductors C C' within the conduit. The current collected by these branches is conveyed by the motor-circuit p to the motor P, of any suitable construction, and connected for driving the car. The collector as an entirety is supported by the car and movable to follow the irregularities in the conduit or conductors, (which need not be within a conduit, but may be supported independent of the rails in any suitable manner.)

The construction above described is one in which T represents one railway and S represents another railway, each of which is provided with track-rails A for supporting an electrically-propelled car, and each of which is also provided with one or more electric conductors extending along and substantially parallel with the respective track-rails, and with which the current-collecting device carried by or moving with the car is adapted to make electrical contact for supplying current to the motor on the car. The conductor for supplying the current to the car is independent of the track or supporting rails.

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

1. In an electric railway having a main line and branch or siding formed with supporting-rails upon which the car runs and is guided, the main-line conductors independent of the rails, in combination with the conductors of the branching track or siding, also independent of the rails, and electrical connections between the conductors of the main line and branching or siding track, by which current is supplied to the branch or siding conductors from the source of supply to the main-line conductors.

2. The combination of generator B, conductors C C' of the main line and siding or branch, both in open circuit and electrically independent of the tracks, and connecting conductors or connections connecting the siding or branch conductors with the main-line conductors.

3. In an electric railway having a main line and branch or siding formed with supporting-rails upon which the car runs and is guided, the main-line conductors independent of the rails, in combination with the conductors of the branching track or siding, also independent of the rails, electrical connections between the conductors of the main line and branching or siding track, by which current is supplied to the branch or siding conductors from the source of supply to the main-line conductors, an electrically-propelled car traveling upon the tracks, and a current-collecting device carried by the car and making a connection with the conductors.

4. In an electric railway having a main line and branch or siding formed with rails upon which the car runs and is guided, the main-line conductors independent of the rails, in combination with the conductors of the branching track or siding, also independent

of the rails, electrical connections between the conductors of the main line and branching or siding track, by which current is supplied to the branch or siding conductors from the source of supply to the main-line conductors, an electrically-propelled car traveling upon the tracks, and a laterally-movable current-collecting device carried by the car and making a connection with the conductors.

5. In an electric railway, the ordinary track-rails of two railway-tracks, in combination with an electric conductor extending along each of the tracks, the conductors of the two tracks being electrically connected with each other but insulated from the rails.

6. In an electric railway, the ordinary track-rails of two railway-tracks, in combination with an electric conductor extending along each of the tracks and the conductors of the two tracks being electrically connected with each other but insulated from the rails, an electrically-propelled car running upon the rails, and a current-collecting device carried by the car and making a moving contact with the conductor of either of the tracks.

7. In an electric railway, the ordinary track-rails of two railway-tracks, in combination with an electric conductor extending along each of the tracks and the conductors of the two tracks being electrically connected with each other but insulated from the rails, an electrically-propelled car running upon the rails, and a current-collecting device carried wholly by the car and making a moving contact with the conductor of either track.

8. In an electric railway, the ordinary track-rails of a main-line and branching railway, in combination with an electric conductor extending along each of the tracks of the main line and branch, the conductors of the two tracks being electrically connected with each other but insulated from the rails, with an electrically-propelled car, and a movable current-collecting device making contact with the conductors of the main line or branch.

9. In an electric railway, the combination of two tracks, one branching from the other, and upon which an electrically-propelled vehicle is supported, in combination with a continuous conductor extending along each of the tracks, electrically connected in parallel and electrically independent of the track-rails.

10. In an electric railway, the combination of two tracks, one branching from the other, and upon which an electrically-propelled vehicle is supported, in combination with a continuous conductor extending along each of the tracks, electrically connected in parallel and electrically independent of the track-rails, an electrically-propelled vehicle having its weight supported on the track-rails, and a current-collecting device moving with the vehicle and making a traveling connection with either of the electric conductors for supplying current to the motor.

11. In an electric railway, the combination of two tracks, one branching from the other, and upon which an electrically-propelled vehicle is supported, in combination with a continuous conductor extending along each of the tracks, electrically connected in parallel and electrically independent of the track-rails, an electrically-propelled vehicle having its weight supported upon the track-rails, and a current-collecting device having its weight wholly sustained by and moving with the vehicle and making a traveling connection with either of the electric conductors for supplying current to the motor.

12. The combination, in an electric railway, of two tracks, the rails of which branch one from the other, in combination with two continuous electrical conductors arranged along

each of the tracks and in which the positive conductors of each track are electrically connected in parallel and the negative conductors of each track are electrically connected in parallel, an electrically-propelled vehicle having its weight sustained by the rails of the respective tracks, and a current-collecting device moving with the vehicle and making a traveling connection with the positive and negative conductors of either track for supplying current to the motor.

In testimony of which invention I hereunto set my hand.

RUDOLPH M. HUNTER.

Witnesses:

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E. M. BRECKINREED.