(No Model.)

J. R. FINNEY.

ELECTRICAL CONDUCTOR.

No. 346,990. Patented Aug. 10, 1886.

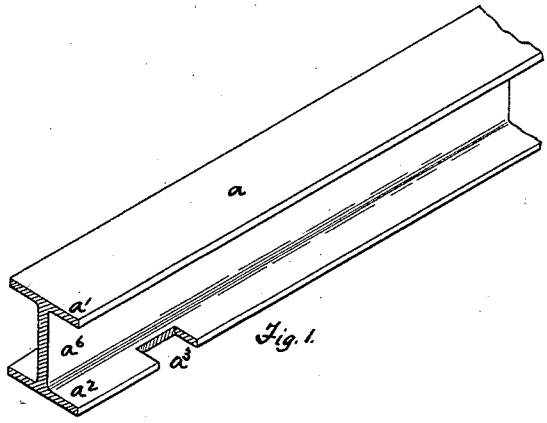
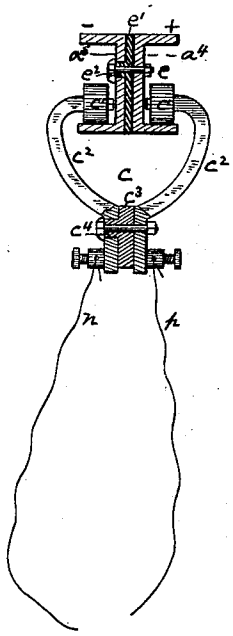


Fig. 1.

Fig. 3.



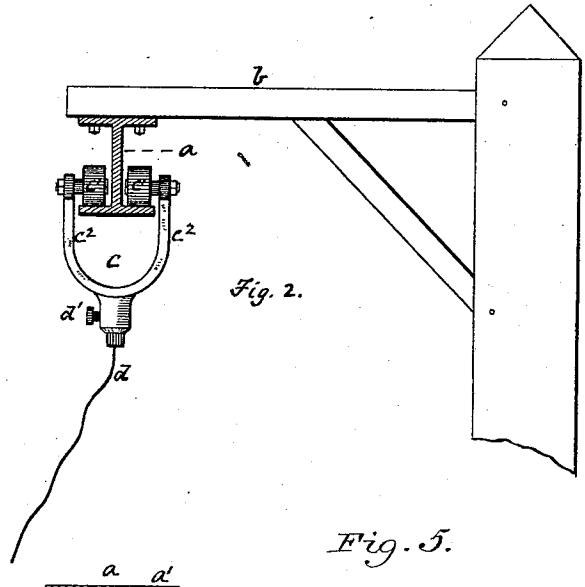


Fig. 2.

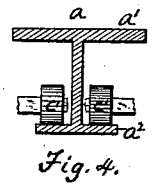
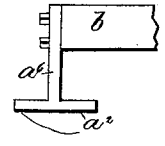


Fig. 4.

Fig. 5.



Witnesses.

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D. C. Huntemann

Inventor.

Joseph R. Finney

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UNITED STATES PATENT OFFICE.

JOSEPH R. FINNEY, OF PITTSBURG, ASSIGNOR OF ONE-HALF TO THOMAS B. KERR, OF ALLEGHENY, PENNSYLVANIA.

ELECTRICAL CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 346,990, dated August 10, 1886.

Application filed November 13, 1883. Serial No. 111,655. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH R. FINNEY, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Electrical Conductors; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of my improved overhead electrical conductors for electric railways. Fig. 2 is a cross-section of the overhead conductor, showing the contact in place. Fig. 3 is a view of a modification. Fig. 4 is a cross-section of a modified form of conductor. Fig. 5 is a view of a modified manner of securing the conducting-rail to its support.

Like letters of reference indicate like parts in each.

The purpose of my invention is to obtain an electrical conductor which can be made of the proper size to convey any required large amount of current—such as is necessary with an electric railway—and which is light, strong, and adapted by its form to permit the passage of a traveling contact without danger of the latter departing or becoming disconnected therefrom.

To this end I use a strip or bar, a, of I or other equivalent form, and secure it to supports b by bolts through its upper flange, a'. On the lower flange, a^2, runs or passes a traveling contact, c, the wheels or contacts c' of which are secured on the arms c^2, and are put in place on the conductor a by passing over the end or through the notches a^3. The conductor d, which leads to the car, is fastened to the traveler c by a binding-screw, d', or in other desired way. This form is adapted to use where one pole of the generator of electricity is connected to the conductor a and the other to the track-rail, and the circuit is established by the conductor d through the electromotor on the car. In case, however, it is desired to make the circuit through the overhead conductor alone, the construction shown in Fig. 3 may be adopted. Here the conductor is formed in two parts, a^4 a^5, which are shaped like channel-bars, and united together by bolts e or otherwise with a layer of non-conducting material, e', between them, and with the non-conducting material encircling and under the heads of the bolts, as at e^2, to prevent short-circuiting at that point. In this case the traveler c is in like manner formed in two parts. The arms c^2 are insulated from each other by the interposed non-conducting material c^3 and c^4. The circuit-wires p and n, which lead to the motor on the car, are connected, respectively, to the different parts of the traveler.

The conducting-rail may be made without the upper flanges, and be secured to the ends of the supports b by bolting through the web a^6, above the path of the traveler, (see Fig. 5,) or it may be fastened in any other proper way. The rail can be made cheaply and rapidly by rolling. The upper flange, a', may be made wide enough to prevent ice and snow lodging on lower flange, a^2, as shown in Fig. 4.

The main advantages of my invention are that the conductor can be made of any desired size without requiring a material change in the traveler, and that the traveler cannot leave the conductor accidentally.

I have described the traveling contact c as being provided with contact-rollers c'. I do not limit myself, however, to the rollers, as the ends of the arms c^2 may be provided with suitable slides or smooth surfaces by which the contact is properly made. The rollers are preferred because they relieve the friction to a greater extent than non rotating surfaces.

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

1. The combination of a conductor having a vertical web and laterally-projecting flanges and a bifurcated traveler mounted on and straddling the flanges of the conductor, substantially as and for the purposes specified.

2. The combination of the laterally-flanged two-part conductor, said parts being insulated from each other, with a bifurcated traveler or contact having its opposite contacts insulated from each other, arranged on opposite sides of the central web, and each provided with separate wires, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 5th day of November, A. D. 1883.

JOSEPH R. FINNEY.

Witnesses:
W. B. CORWIN,
THOMAS B. KERR.