

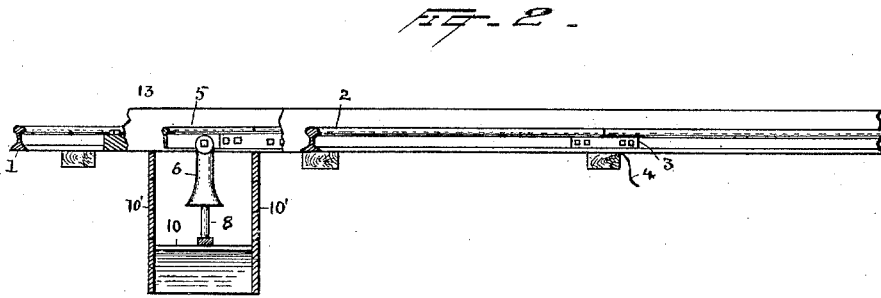
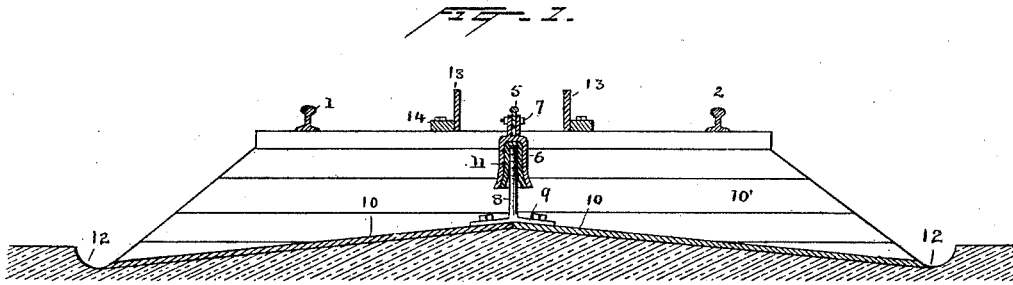
(No Model.)

2 Sheets—Sheet 1.

T. A. EDISON.
CONDUCTOR FOR ELECTRIC RAILWAYS.

No. 476,989.

Patented June 14, 1892.



Witnesses
Norris H. Clark,
H. F. Oberly,

Inventor
T. A. Edison
By his Attorneys
Syert Seely

(No Model.)

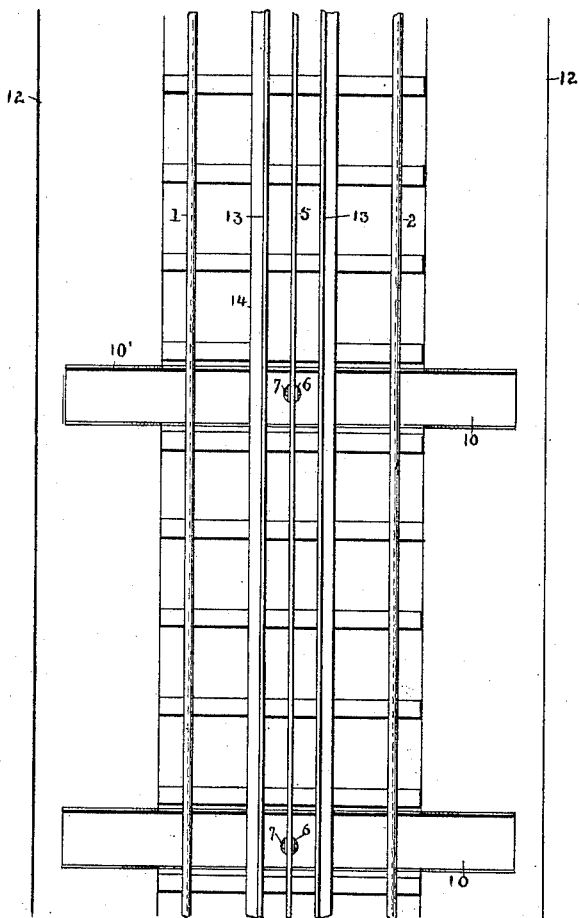
2 Sheets—Sheet 2.

T. A. EDISON.
CONDUCTOR FOR ELECTRIC RAILWAYS.

No. 476,989.

Patented June 14, 1892.

Fig. 3.



Witnesses
Morris A. Clark,
H. F. Cherry

Inventor
T. A. Edison,
By his Attorneys
Dyer & Seely

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF LLEWELLYN PARK, NEW JERSEY.

CONDUCTOR FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 476,989, dated June 14, 1892.

Application filed August 14, 1891. Serial No. 402,658. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, a citizen of the United States, residing at Llewellyn Park, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Electric Conductors for Railways, (Case No. 920,) of which the following is a specification.

The present invention relates to conductors placed along a railway-track; and the main object is to provide an arrangement by which a conductor may be readily and satisfactorily placed along an ordinary steam or other railroad when it is desired to use an electrically-propelled vehicle thereon; and it consists in such a conductor supported between the rails on pole-insulators, said poles rising from the bottom of drains or water-ways.

The invention consists, also, in several other features hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a cross-section of a railway-track along which a conductor supported according to my invention is placed. Fig. 2 is a view at right angles to Fig. 1, parts being broken away to show the parts behind; and Fig. 3 is a plan view of a short section of track.

The conductor to be described is designed particularly for use in railways in which the electric motors used require a heavy current—for example, five hundred volts—and the conductor therefore requires to be well insulated and protected.

In the drawings, 1 2 are rails of an ordinary steam or other railway on which it is desired to use electrically-propelled cars. The joints of the rails are connected by copper plates 3, and at every three hundred feet or so the rails are connected to earth by conductors 4. Between the rails is supported a working conductor 5, made in the form of a rail or plate, having considerable width, so that it shall have strength to support its own weight without too many supporting-insulators. This conductor is made in sections connected together end to end by reinforcing-strips of copper or other metal and is connected at suitable intervals with a supply-conductor, which may be buried or suspended in any proper manner and which need not be shown in this specification. At intervals iron caps 6, having at the upper end jaws 7, are bolted to the

conductor 5. This iron cap is supported on the iron or other pole or standard 8, which at the base has two legs 9, adapted to fit the inclined floor 10, and which preferably stands between two adjacent ties. Between the standard 8, which is preferably screw-threaded at its upper end, and the cap 6 is an insulating material 11, completely cutting off electrical connection between the standard and the cap and conductor supported thereby. The floor 10 forms the bottom of a water-way or drain extending across the track and communicating with any suitable ditch or ditches. 10' are the sides of this water-way. Only one water-way is shown; but I propose to have such a water-way at each point where a pole is necessary. It will be seen that the insulators composed of the caps 6 and the insulating material within the same are supported on poles in the same manner that air-line telegraph-wire insulators are supported and that the conductor 5 is in effect an air-line and is so insulated that it may carry heavy currents without danger of leakage. Although the insulators are large, they are so placed that they do not raise the conductor a great distance above the ties.

To protect the conductor, as well as to prevent persons accidentally coming in contact with it, I place boards 13 along on each side of it, the boards being supported on the cross-ties by blocks or stringers 14. These boards do not form a conduit for inclosing the conductor in the ordinary sense, but are merely protecting devices on either side thereof. In using this system the trough formed by the boards 13 may be kept free from snow and other substances by suitable revolving cleaners carried by the cars.

What I claim is—

1. The combination of a railway-track, a working conductor extending along the track, insulators supporting said conductor, and poles or standards supporting the insulators, said poles or standards being placed in water-ways or drains and being of sufficient length to support the working conductors above the surface of the ground and above the top of the water-ways, whereby the conductor is supported by poles of considerable length, and is thus supported similarly to aerial pole-lines, substantially as described.

2. The combination of a railway-track, a working conductor extending along the track, insulators supporting said conductors, and poles or standards supporting the insulators, said poles or standards being placed in transverse water-ways having inclined bottoms, substantially as described.
3. The combination of a railway-track, a working conductor extending along the track, and poles or standards supporting the working conductor, said poles or standards being placed in transverse water-ways or drains, substantially as described.
4. The combination of a railway-track having cross-ties, a conductor between the rails of the track and above the ties, and insulators on poles between the ties supporting said conductor, said poles being supported on the bottoms of water-ways, substantially as described.
5. The combination, with the ties and rails, of the conductor supported between the rails and above the ground, a supporting-pole for the conductor standing in a transverse water-way, and a guard supported by the ties on each side of the conductor, substantially as described.
6. The combination, with a conductor, of poles supporting the conductor above the ground and between the rails of a track, said poles being located in transverse water-ways, and a guard on each side of said conductor, substantially as described.

This specification signed and witnessed this 31st day of July, 1891.

THOS. A. EDISON.

Witnesses:

JOHN F. RANDOLPH,
FREDERICK OTT.