

G. F. GREEN.
CONDUIT FOR ELECTRIC RAILWAYS.

No. 507,493.

Patented Oct. 24, 1893.

Fig. 1.

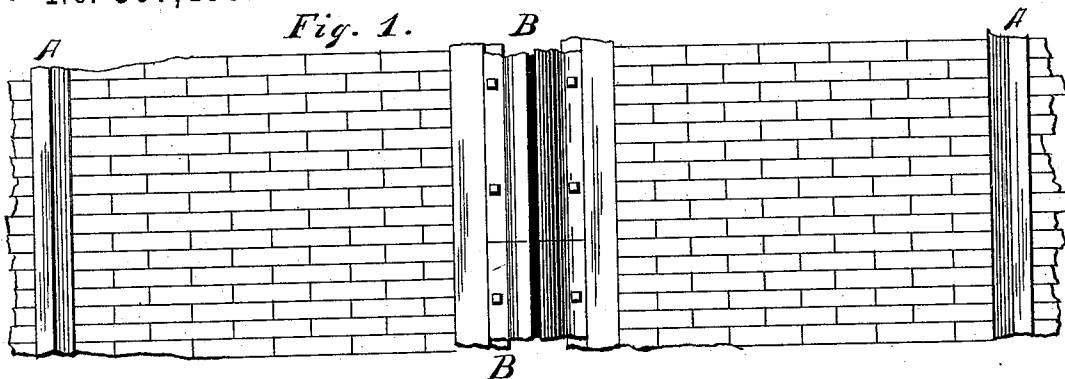


Fig. 2.

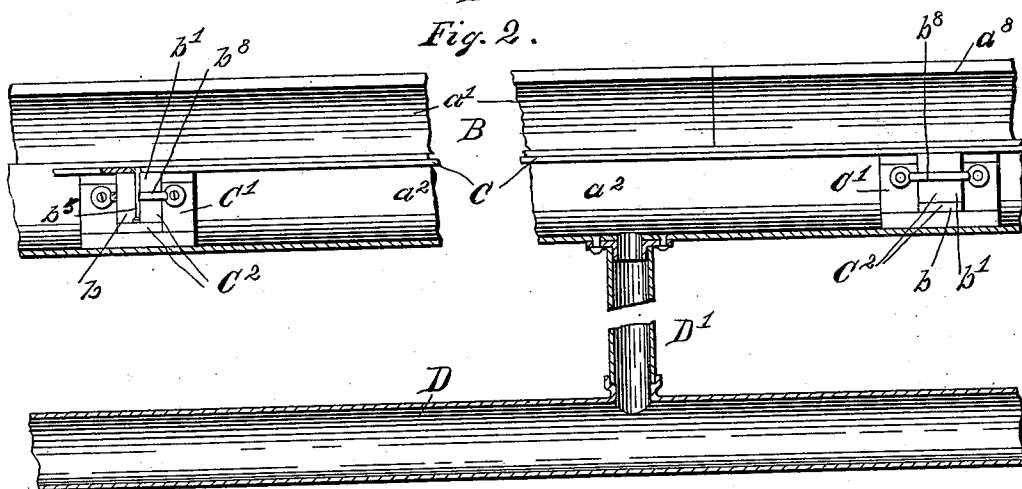
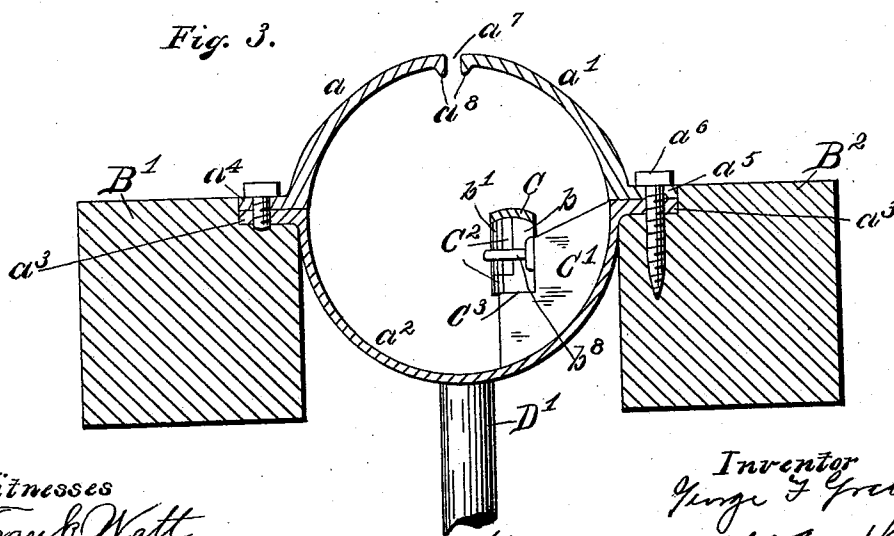


Fig. 3.



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Fig. 4.

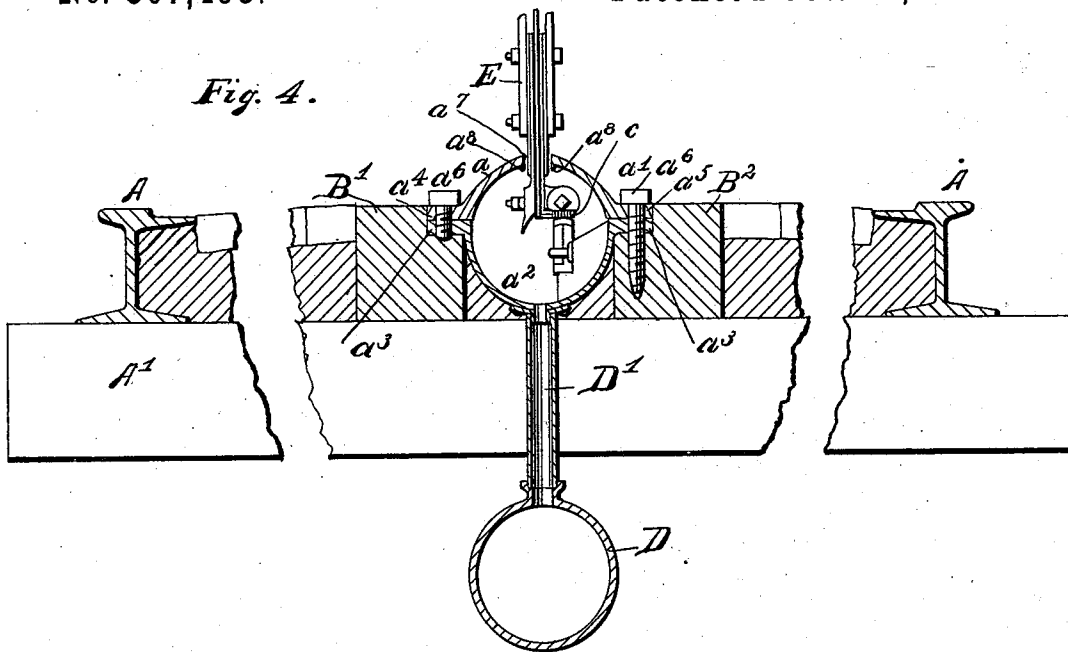
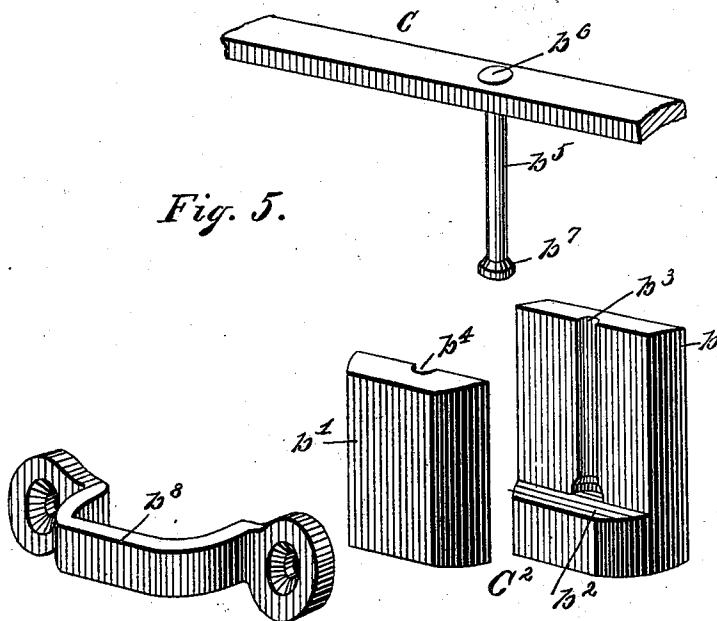


Fig. 5.



Witnesses
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By his Attorneys

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UNITED STATES PATENT OFFICE.

GEORGE F. GREEN, OF KALAMAZOO, MICHIGAN, ASSIGNOR OF ONE-HALF TO OLIVER S. KELLY; MARTHA L. GREEN, OF SPRINGFIELD, OHIO, EXECUTRIX OF SAID GEORGE F. GREEN, DECEASED.

CONDUIT FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 507,493, dated October 24, 1893.

Application filed April 23, 1892. Serial No. 431,060. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. GREEN, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Conduits for Electric Railways, of which the following is a specification.

My invention relates to improvements in conduits for electric railways.

The object of my invention is to provide a conduit of simple construction adapted to contain the electric conductor or conductors, through which a supply of electric current is furnished to a moving car on an electric railway.

A further object of my invention is to provide a sectional conduit the parts of which may be readily joined together or separated, the construction being such that some of the sectional parts may be readily removed when desired, for affording easy access to the interior, for the purpose of examining or repairing the conductors.

To this end my invention consists in the various constructions and combinations of parts hereinafter described and set forth in the claims.

In the accompanying drawings Figure 1 is a plan view of a section of track to which my improved conduit is shown applied. Fig. 2 is a vertical longitudinal section of the conduit. Fig. 3 is a transverse section of the same. Fig. 4 is a transverse section through the track, showing the relative arrangement of the conduit and the track rails. Fig. 5 is a detail view of the conductor supporting devices, shown detached in position for assembling.

Like parts are indicated by similar letters of reference in the several views.

In the said drawings A A, represent the rails of an ordinary street railway, which are supported in the usual way upon suitable supporting ties A', extending transversely across the track and preferably below the surface of the ground.

B B, is my improved conduit, which is located centrally between the rails A A, and

preferably supported on longitudinal stringers, B' B², which rest on the ties A', and preferably extended continuously between the rails on each side of the said conduit. These stringers B' B², are preferably formed of wood and rest directly on the ties A'. The conduit B, is formed in three longitudinal sections a, a', a², the lower of which is preferably of a semi-circular form and provided with laterally extending flanges a³ a³, at or near the upper edge thereof, adapted to rest on the stringers B' B². The upper longitudinal sections a a', are also provided with flanges a⁴ a⁵, adapted to rest on the flanges a³, and be connected thereto by bolts or screws a⁶, which pass through the respective flanges and also preferably into the stringers B' B², thus securing all the parts firmly together.

The conduit is made sectional in its length by forming the longitudinal sections a a' a², of suitable lengths and connecting the same together in such a manner that the upper sections shall brake joints with the lower sections; i. e. each of the upper sections shall overlap so as to connect with two lower sections and vice versa. The upper sections a a', are each preferably formed on the arc of a circle corresponding to the lower portion or section a², the said sections being of a suitable width so that the adjacent upper edges thereof shall stand in proximity but leave an opening a⁷, between the same. The upper projecting edges of said sections are also preferably provided on the inside with downwardly projecting ribs or flanges a⁸, forming beaded edges for the slotted opening a⁷, on the interior of said conduit.

C, is the conductor which is located within the conduit and placed sufficiently at one side thereof so as to be completely covered and protected by one of the upper sections of said conduit. The conductor C, consists preferably of a curved metal strip supported at suitable intervals on a suitable supporting strip or block C', of non-conducting material, rigidly secured to the inner walls of the conduit. To provide for removably securing the conductor to the said strip or block C', I preferably employ bearing blocks C², which rest

on a supporting ledge or shoulder C^2 , formed in the strip or block C' . These bearing blocks C^2 , are each formed in two parts $b b'$, the main or stationary part b , being provided with a lower projecting bearing seat or shoulder b^2 , on which the removable part b' is adapted to rest. Each of the parts $b b'$, are provided on their adjacent faces with notched recesses b^3 , b^4 , formed to receive a fastening pin or rivet b^5 , which extends through the conductor C , and which is formed at each end with suitable heads $b^6 b^7$, adapted to engage in countersunk openings in the top of said conductor and at the bottom of the respective recesses $b^3 b^4$, as shown in Fig. 5.

In assembling the parts the conductor rests on top of the bearing block C^2 , with the connecting pin or rivet b^5 , within the recesses $b^3 b^4$, between the respective parts of said bearing blocks. The respective parts are thus held securely together by a yoke b^8 , which embraces the respective bearing blocks and are firmly secured to the supporting brackets C' , by screws or in any other suitable manner.

Means are provided for draining the conduit at suitable intervals by connecting said conduit to a sewer or other pipe D , by suitable connecting pipes D' . A conduit with a conductor as thus described is preferably adapted for use with a contact device, such as shown in Fig. 4, formed with a series of metallic brushes c , arranged at one side of a suitable holder E , which passes through the slotted opening a^7 , in the said conduit and is connected at its upper extremity to the car to which the current is to be applied. This particular form of contact device and conductor is made the subject of another application filed by me April 28, 1892, Serial No. 431,059. It is obvious, however, that the conduit and conductor herein described is not limited to its use with a contact device such as shown, but may be used with any desired or suitable form of contact device.

I have shown but a single conductor in the conduit, this being constructed for use with a system in which the track rails are used for the return circuit. It is obvious, however, that the same arrangement may be employed for two conductors, in which case the said conductors would be arranged on opposite sides of the said conduit.

It will be seen that as thus described I form a conduit which occupies but small compass, the conductor or conductors, being arranged under the upper longitudinal sections which are provided with the inner beaded edges a^8 , are fully protected from moisture, as any water which finds its way through the slotted opening a^7 , will be directed by the beaded edges a^8 , into the center of the conduit where

it is directed through the outlet openings B' , into the sewer D .

When in use with paved streets the tops of the stringers $B' B^2$, will be arranged flush with the top of the paving. The projecting flanges of the conduit will also be preferably let into said stringers so as to stand flush with the tops thereof, thus leaving the upper sections $a a'$, of the conduit above the street. The slotted opening a^7 , is thus arranged above the surface of the street and protected by the sloping sides of the upper sections, so that water which finds its way along the street would be deflected from the slotted opening a^7 , and prevented from entering the same.

A conduit as thus described would occupy but little space, the total diameter being, say from four to six inches. The different sections could be readily rolled to the desired shape, and being detachably connected, ready access can be obtained to the interior of the conduit by removing one or more sections.

Having thus described my invention, I claim—

1. The combination with a railway track, of a conduit for electric conductors consisting of a lower semi-circular section having projecting side flanges at or near the upper edges thereof, and two upper sections each having projecting side flanges at the lower edges thereof, adapted to rest on and be connected to the flanges of the lower section, cross ties for supporting the rails of said track, and longitudinal stringers on said cross ties, said side flanges being adapted to rest on said stringers and thus support said conduit, and a conductor in said conduit, said conductor being supported in said lower semi-circular section, substantially as and for the purpose specified.

2. The combination with a conduit formed of sections, as described, of an electric conductor consisting of a metallic strip supported at intervals by suitable supporting brackets of non-conducting material arranged on the inside of said conduit, bearing blocks for said conductor arranged on said supporting brackets, said bearing blocks being formed in two parts, a connecting pin extending through said conductor and said bearing blocks, and a connecting loop adapted to embrace the parts of said blocks, and means for securing said loop and thus said bearing blocks to said brackets, substantially as specified.

In testimony whereof I have hereunto set my hand this 19th day of April, A. D. 1892.

GEORGE F. GREEN.

Witnesses:

ELBERT S. ROOS,
HARRY C. HOWARD.