

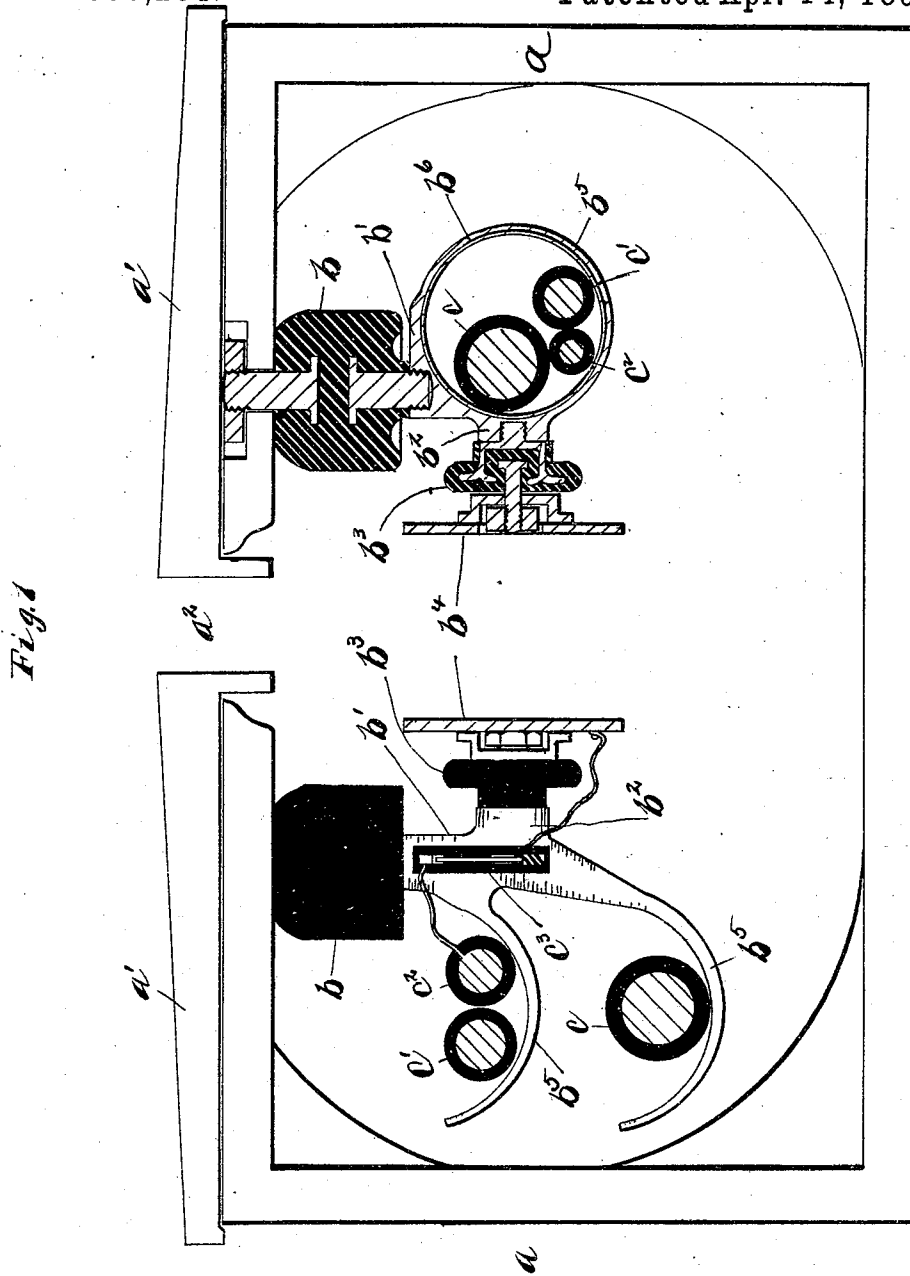
(No Model.)

2 Sheets—Sheet 1.

A. S. KROTZ & W. P. ALLEN.
CONDUIT OR SUBWAY FOR ELECTRIC RAILWAYS.

No. 558,284.

Patented Apr. 14, 1896.



Witnesses
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By their Attorney
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UNITED STATES PATENT OFFICE.

ALVARO S. KROTZ, OF SPRINGFIELD, OHIO, AND WILLIAM P. ALLEN, OF CHICAGO, ILLINOIS, ASSIGNORS OF ONE-THIRD TO OLIVER S. KELLY, OF SPRINGFIELD, OHIO.

CONDUIT OR SUBWAY FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 558,284, dated April 14, 1896.

Application filed December 2, 1895. Serial No. 570,856. (No model.)

To all whom it may concern:

Be it known that we, ALVARO S. KROTZ, of Springfield, Clark county, Ohio, and WILLIAM P. ALLEN, of Chicago, Cook county, Illinois, citizens of the United States, have invented certain new and useful Improvements in Conduits or Subways for Electric Railways, of which the following is a specification.

Our invention relates to improvements in conduits or subways for electric railways; and it consists in the constructions and combinations of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is an end elevation of a section of the subway or conduit with parts shown in section. Fig. 2 is a diagrammatic view of the conductor-supports and the connections therefor. Fig. 3 is a top view of the conductor-supports and conductors, showing the connections. Fig. 4 is a plan view, partly in section, of a modification.

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

In the accompanying drawings, *a* represents a supporting frame or yoke, of which any number may be used, the frames or yokes being placed preferably about three to four feet apart.

a' a' are plates or covers which are adapted to rest at each end on the respective yokes and form a top to the subway which exists between the yokes.

The sides and bottom of the subway may be formed in any suitable manner, either by masonry or by planks and plates, which extend from one yoke to another, so as to form a continuous conduit or subway.

The plates *a' a'* will be separated to form the usual slotted opening *a²*, which extends continuously along the top of the subway or conduit to permit the supports of the traveling contacting devices to pass through the same.

Depending from the top of the yokes *a* are insulators *b*, which may be of any suitable form, and supported by each of these insulators there is a conductor-support *b'*, which has at

one side a boss or projection *b²*, to which is secured an insulator *b³*. Supported by the insulators *b³* there is a sectional contacting rail *b⁴*, which is attached to the several insulators *b³* in any suitable manner. These rails *b⁴* are made in sections of any desirable or suitable length, the said sections being independent one from the other, or, if connected, insulated, so as to be electrically independent one from the other.

The conductor-supports *b'* are formed with extended bracket-arms *b⁵*, on which the main conductors or feed-wires *c c' c²* (any suitable number being employed) are supported. If desired, these bracket-arms *b⁵* may be constructed circular in form and connected by pipe or tube sections *b⁶*, as shown at the right in Fig. 1, thus making a continuous tubular casing in which the insulated feed-wires are inclosed.

A connection is established from each of the rail-sections *b'* with one of the feed-wires or main conductors, preferably through the medium of a switch *c³*, which may be supported on the conductor-support *b'*, or, in the event that the continuous tubular casing is used in connection with said supports, the switch *c³* may be inclosed within suitable box *c⁴*, forming a part of the casing *b⁶*, as shown in Fig. 4.

It will be seen by the above construction that we provide sectional contacting rails which are doubly insulated from the conduit or supports. The main conductors are also doubly insulated from the conduit or the frame portions thereof. Means are also provided by which any rail-section may be readily cut out in the event of a short circuit or other similar trouble.

Having thus described our invention, we claim—

1. In a subway or conduit, a series of supports connected to the walls of said subway or conduit by insulators, said supports being connected to and adapted to sustain contacting rails and feed-wires or conductors, said contacting rails and feed-wires or conductors being each insulated one from the other and from said supports, and a detach-

able connection from one or more of said feed-wires or conductors to the contacting rails, substantially as specified.

2. The combination, in a subway or conduit, of a series of yokes, insulators on said yokes, and a series of supports sustained by said insulators, said supports being adapted to support on one side thereof independent rail-sections and on the other side one or more feed-wires or conductors, said independent rail-sections being insulated from said supports and from said conductors, and said conductors being insulated from said supports and from said independent rail-sections, and a detachable connection from said conductor or conductors to each of said rail-sections, substantially as specified.

3. The combination with a supporting-yoke and an insulator thereon, a support sus-

tained by said insulator, a sectional rail connected to said support, and an insulated conductor also supported thereby, said rail being insulated from said support and from said conductor, and said conductor being insulated from said support and said rail, and an insulated switch on said support, and a connection from said switch to said conductor and to said sectional rail, substantially as specified.

In testimony whereof we have hereunto set our hands this 9th day of November, A. D. 1895.

ALVARO S. KROTZ.
WILLIAM P. ALLEN.

Witnesses:

GEO. A. BEARD,
CHAS. I. WELCH.