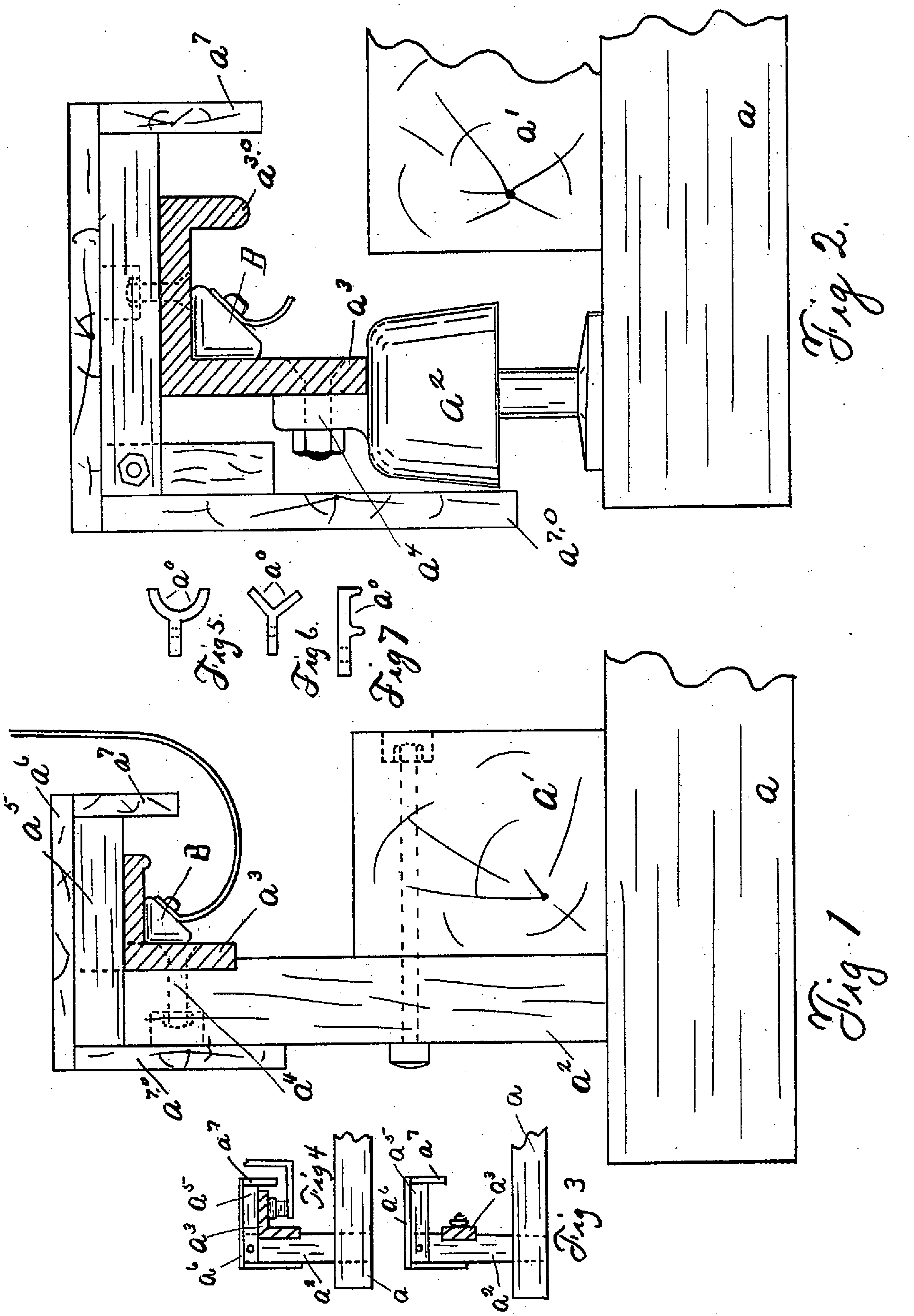
(No Model.) 2 Sheets—Sheet 1.

A. S. KROTZ, W. P. ALLEN & O. S. KELLY.

CONDUIT.

No. 587,213. Patented July 27, 1897.



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(No Model.) 2 Sheets—Sheet 2.

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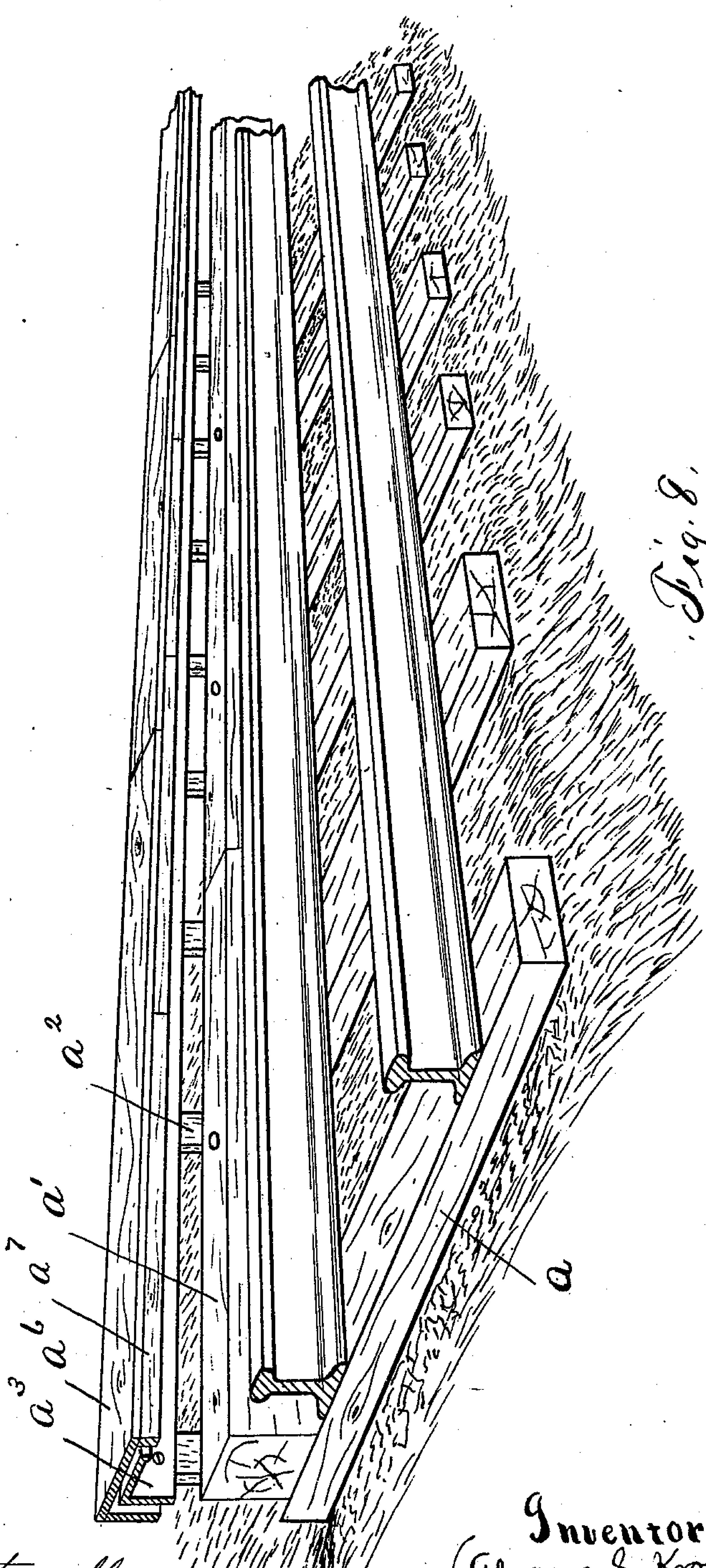

Fig. 8.

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UNITED STATES PATENT OFFICE.

ALVARO S. KROTZ, OF SPRINGFIELD, OHIO, WILLIAM P. ALLEN, OF CHICAGO, ILLINOIS, AND OLIVER S. KELLY, OF SPRINGFIELD, OHIO.

CONDUIT.

SPECIFICATION forming part of Letters Patent No. 587,213, dated July 27, 1897.

Application filed May 28, 1896. Serial No. 593,479. (No model.)

To all whom it may concern:

Be it known that we, ALVARO S. KROTZ, residing at Springfield, in the county of Clark and State of Ohio, WILLIAM P. ALLEN, residing at Chicago, in the county of Cook and State of Illinois, and OLIVER S. KELLY, residing at Springfield, in the county of Clark and State of Ohio, citizens of the United States, have invented certain new and useful Improvements in Conduits, of which the following is a specification.

Our invention relates to improvements in surface-contact circuits for railway systems.

The object we have in view is to produce a system in which the live conductor or contact, commonly called the "third rail," is protected from the weather and shielded from contact by workingmen. We accomplish this by insulating the contact-conductor and supporting on the same, either by the insulator or by a separate insulation, a covering or protector.

In the accompanying drawings, Figure 1 is a sectional view; Fig. 2, a sectional view of a modification. Figs. 3 and 4 show further modifications. Figs. 5, 6, and 7 show modified forms for the contact-rail, a^0 representing the contact-surface; and Fig. 8 is a plan view.

In Fig. 1, a is the track support or tie. a' is the guard-rail, such as is usually employed in elevated track construction. a^2 is an insulating standard or support rigidly supported to either the tie or the guard-rail. Upon this insulator is supported the contact-rail a^3 by means of bolts a^4. Over the rail and supported either by the rail a^3 or the insulator a^2 is supported an insulating cross-piece a^5, upon which is supported the covering a^6 and downwardly-projecting sides a^7 a^{70}. In Fig. 1 this covering is supported on both the insulators and the rail; in Fig. 2, on the rail only; in Fig. 3, on the insulator only.

The contact-rail a^3 is preferably made of channel-steel, with a much longer lip a^3 on the insulator side, the other lip a^{30} being only long enough to form a drip.

The contact-shoe B is preferably formed to fit into the upper left-hand corner of the rail a^3. However, we may provide an upper or side contact, as shown in Figs. 3 and 4.

In Figs. 1, 3, and 4 the lip a^7 and the conduit-support forms the slot, although in some cases where a double circuit is desirable a double construction is used with the open sides facing, the slot being formed between the lips a^7. When desirable, pieces a^7 and a^{70} are dispensed with, the slot being formed between the support or the guard-rail and the lip a^{30}. In other cases the bottom part of the slot is formed by the guard-rail a', as shown in Fig. 2.

The conduit contact-rail is adapted to stand above the level of the track-rail, so that the sliding contact-shoe passes over the track construction at crossings, the conduit ending on either side. Thus it is clear that at frequent crossings the conduit would be in short sections, in some cases so short as to only include one or two insulating-standards and their covers and a very short piece of contact-rail. In some cases, where there is no crossing, this construction is preferable. In such cases a continuous contact shoe or brush is used, so as to connect with two or more of said short sections, each section being connected to the regular feeder.

The depending side a^{70} of the cover a^6 forms a shield for the contact-rail and prevents casual contact therewith from the outer side of the track.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with the track-rails, a guard-rail adjacent to one of the track-rails, insulated standards or supports attached to said guard-rail, a contacting rail secured to and supported by said standards, a shield adjacent to said contact-rail and on the opposite side of said standards from said guard-rail, and a top or cover joining said side shield and extending over the tops of said supporting-standards and over said contacting rail, said top or cover being arranged in a plane above said guard-rail, substantially as specified.

2. The combination with track-rails, and the track-rail supports, of the insulating-supports arranged along the line of said track, and a contacting rail secured to and supported by said supports in line with one of said track-rails, a side shield on said supports

adjacent to said contact-rail and on the opposite side thereof from the track-rail, and a top or cover joining said side shield and projecting over the top of said contacting rail, said contacting rail and cover being arranged in a plane above the track-rail and exposed laterally on the side adjacent to said track-rail, substantially as specified.

3. The combination with the track-rails and supports therefor, supporting-standards arranged along the line of said track, and a contacting rail having lateral and vertical projections as described, said contacting rail being attached to and supported by said standards, a side shield on said standards adjacent to and in line with the vertical portion of said contacting rail, and a top or cover joining said side shield and extending over the tops of said standards and contacting rail parallel with the horizontal portion of said contacting rail, substantially as and for the purpose specified.

4. The combination with a contacting rail having the vertical and horizontal parts, the depth of one side of said rail being greater than the other, of an insulating-support attached to the side of greater depth, and a covering over said insulating-support and over said contacting rail, substantially as specified.

5. The combination with a base or support, a contacting rail insulated from said support, said contacting rail consisting of a horizontal piece of metal with downwardly-projecting sides, a covering over said contacting rail, and a side shield arranged adjacent to and parallel with one of the downwardly-projecting sides of said contacting rail, said contacting rail being exposed laterally on the opposite side from said shield, substantially as specified.

6. The combination with a railway-track, insulating-standards supported along the line of said track, a contacting rail supported by said standards, a side shield supported adjacent to said contacting rail on one side thereof, and a top or cover joining said side shield and projecting laterally therefrom and extending over said contacting rail, said side shield being arranged adjacent to said contacting rail on the side farthest from said track-rail, said contacting rail being exposed laterally on the side adjacent to said track-rail, substantially as specified.

In testimony whereof we have hereunto set our hands this 18th day of May, A. D. 1896.

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