

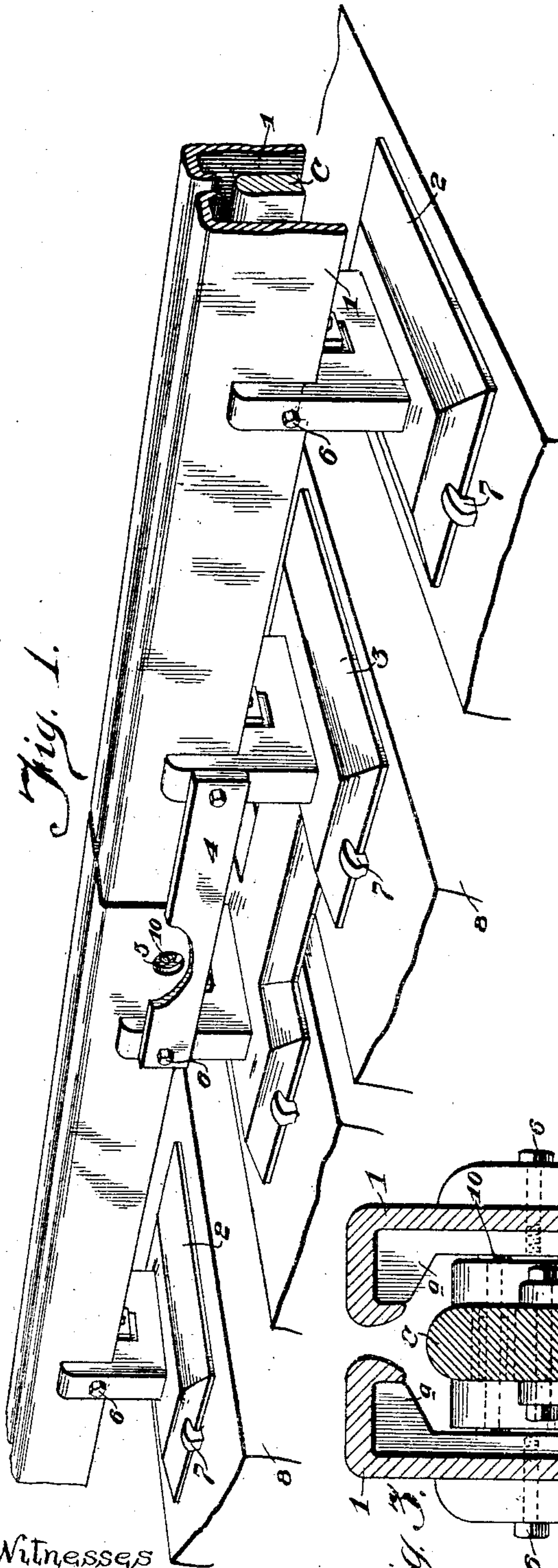
C. A. BLUHM.

THIRD RAIL.

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960,066.

Patented May 31, 1910.



Witnesses
Hilton Lenoir
Lloyd W. Patch

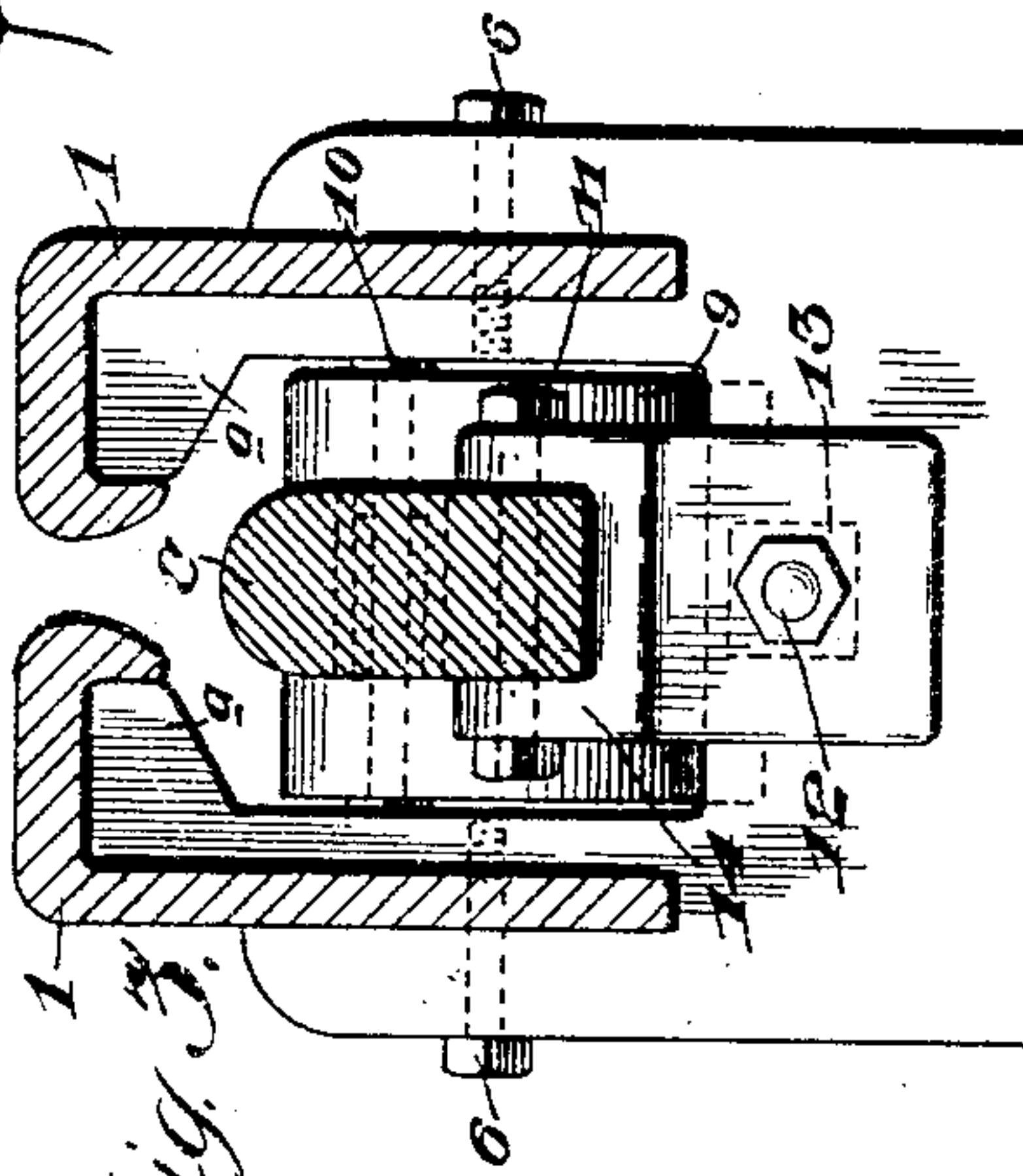


Fig. 3.

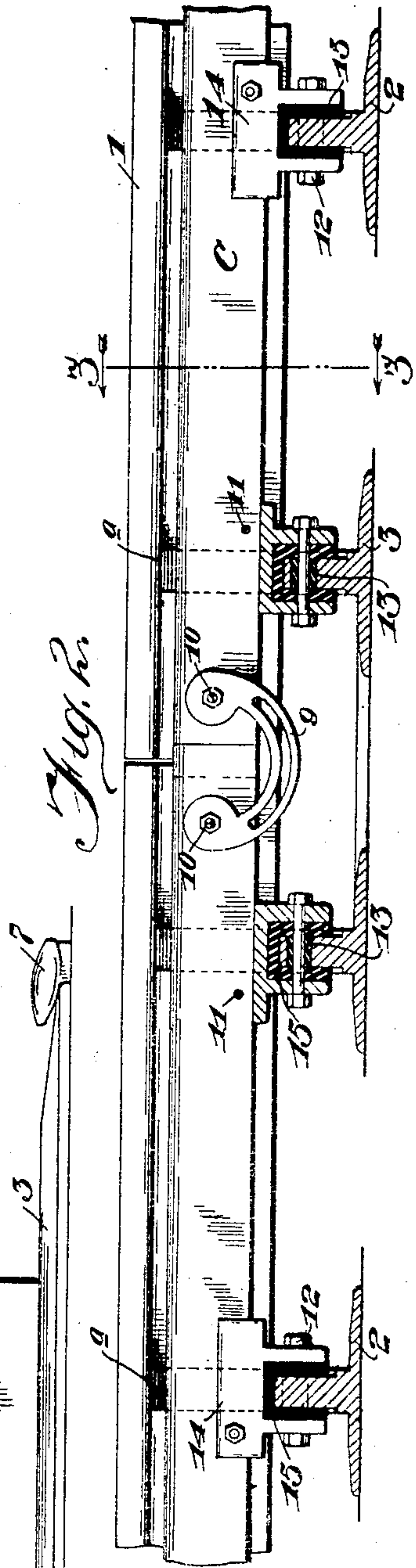


Fig. 2.

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THIRD RAIL.

960,066.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed March 3, 1909. Serial No. 481,066.

To all whom it may concern:

Be it known that I, CHARLES A. BLUHM, a citizen of the United States, residing at Michigan City, in the county of Laporte and State of Indiana, have invented certain new and useful Improvements in Third Rails, of which the following is a specification.

My invention relates to an improvement in third rails, or a guard rail protected conductor, adapted to be used in connection with a trolley wheel, it being laid between the rails of the track, the object being to provide improved means for conducting heavy electric currents through slotted hollow elevated guard rails, mounted on chairs secured upon ties, through the medium of a conductor of copper or other like current conducting material, in connection with a bonded track or service rail, which is used for the return circuit.

A further object is to construct an electric current conveying conductor, protected by slotted guard rails, from which the electric current of the conductor may be conveyed by a trolley wheel to an electric locomotive or motor car, without interruption at crossings or public thoroughfares.

With the foregoing objects and others in view, this invention comprises a conductor, mounted upon chairs and upon ties, and protected by hollow slotted guard rails, the conductor, in connection with metallic saddles being separated from the chairs by an insulation of suitable material, such for instance as pressed paper, chemically hardened, and covered with a fire proof paint; or of any other approved non-conducting or insulating material, the conductor being mounted and thoroughly insulated from the chairs and guard rails, and bonded at the ends, the bond being made of two separate pieces, pressed together through openings at the ends of the conductor, wedging it tightly in the openings of the conductor and locked together by bolts.

My invention further consists in certain novel features of construction and combinations of parts, which will be hereinafter described and pointed out in the claims.

In the accompanying drawings:—Figure 1 is a view in perspective showing my improved invention; Fig. 2 is a view in side elevation with one of the guard rails removed and showing the guard rail chairs and two of the metallic saddles and their insulations in transverse section; Fig. 3 is

an enlarged sectional view on line 3—3 on Fig. 2 looking toward the left.

The numerals 1, 1 indicate guard rails. These are inverted L-shaped in cross section and are held in the vertical slots of the guard rail chairs 2, 2 and the twin chairs 3, 3 by means of bolts or screws 6, 6, portions of the chairs extending up into and fitting the hollow centers of the guard rails as indicated at *a, a* in Figs. 2 and 3 to afford supports therefor.

C indicates the conductor of copper or similar current conducting material. This conductor is supported on the guard rail chairs 2, 2 and the twin chairs 3, 3 where it is held by bolts 11, 11, by means of the metallic saddles 14, 14, these saddles being secured by bolts 12, 12 to the chairs, insulating saddles 15, 15 and insulating tubes 13, 13 composed of any approved nonconducting or insulating material, being interposed between the chairs and metallic saddles and the chairs and the bolts respectively, as shown in Fig. 2. The ends of the conductors C, C are preferably spliced together as shown in Fig. 2 and bonded at the ends as illustrated, the bonds 9, 9 being preferably made of two separate U-shaped pieces, and held together by means of bolts 10, 10 as illustrated, orifices 5, 5 of sufficient size being formed in the ends of the guard rails through which to insert a tool to operate these nuts or bolts 10, 10, as shown in Fig. 1.

Fish plates 4, 4 connect the twin chairs together and the chairs are held fast to the ties 8, 8 by ordinary rail spikes 7, 7.

The intermediate chairs 2, 2 between the ends of the guard rails may be placed at any suitable distance apart so long as they carry the weight of the guard rails and conductor, and in this manner of construction the guard rails and conductor can be kept clean from dirt and may be removed at any time for inspection of the bond or conductor.

By means of this construction, it is impossible for a person or animal coming in contact with the conductor to receive a shock, so that it may be used on a surface as well as on an elevated road, public highway, or crossing, without endangering the lives of pedestrians or animals crossing the track or coming in contact with the slot or guard rails.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A third rail comprising guard rails,

having hollow centers, conductors located below the slot between guard rails and chairs, the chairs being slotted to receive the guard rails and extended to fit the hollow centers of the guard rails and afford support therefor in their elevated position above the conductor.

2. A third rail comprising a guard rail and twin rail chairs, the guard rails held therein, a conductor supported upon and insulated from the said chairs and fish plates connecting the upper ends of the twin chairs together.

3. In a third rail the combination with a chair, the upright portions of which are vertically slotted and provided with extensions, these chairs having crotches between the slotted portions of inverted L-shaped guard rails fitting said extensions and slots and secured therein, and a conductor supported in the crotches of the chairs.

4. In a third rail the combination with a chair, the upright portions of which are ver-

tically slotted and provided with extensions, these chairs having crotches between the slotted portions of inverted L-shaped guard rails fitting said extensions and slots and secured therein, a conductor supported in the crotches of the chairs, metallic saddles for securing the conductor to the chairs, and insulating saddles interposed between the metallic saddles, and the crotches of the chairs.

5. In a third-rail, the combination with chairs having crotches at the center, guard rails secured to the chairs on opposite sides of the crotches, saddles secured in the crotches, and insulated from the chairs, and a conductor held by the saddles at a point below and between the guard rails.

In testimony whereof I affix my signature, in the presence of two witnesses.

CHARLES A. BLUHM.

Witnesses:

HENRY H. BLUHM,
THERON F. MILLER.