

No. 610,091.

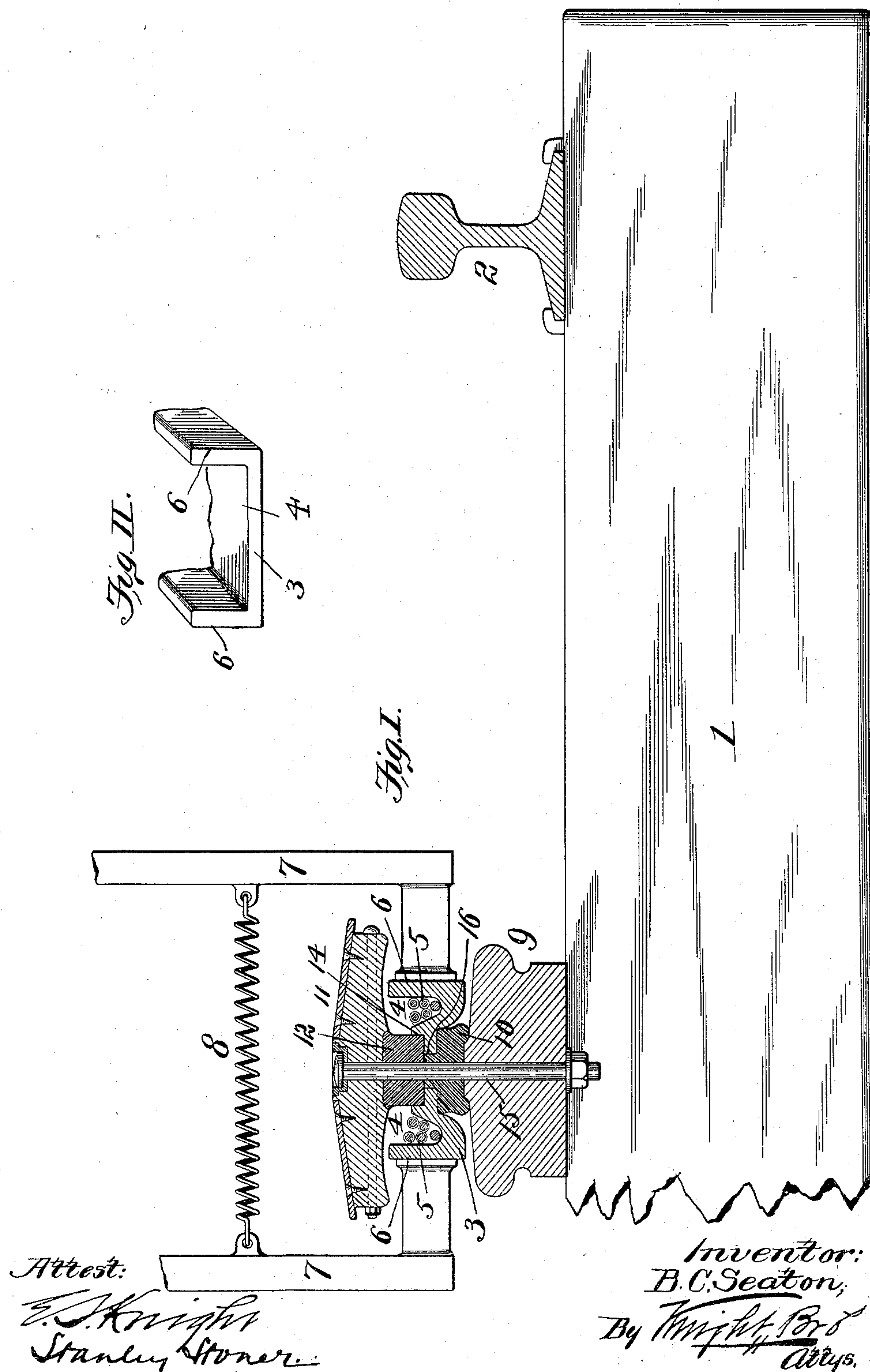
Patented Aug. 30, 1898.

**B. C. SEATON.**

## THIRD RAIL FOR ELECTRIC RAILWAYS.

(Application filed Dec. 7, 1897.)

(No Model.)





# UNITED STATES PATENT OFFICE.

BENJAMIN C. SEATON, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE ELECTRIC  
THIRD RAIL AND SIGNAL COMPANY, OF SAME PLACE.

## THIRD RAIL FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 610,091, dated August 30, 1898.

Application filed December 7, 1897. Serial No. 661,104. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN C. SEATON, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Third Rails for Electric Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a form of rail for use as a conductor in what are known as "third-rail" electric railways. The rail is designed to be placed between the track-rails to conduct the electric current to the car-motors through means of suitable shoes or contact-arms carried by the trucks and which bear against the rail.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a transverse section of my improved rail, showing also the contact arms or shoes in elevation and showing also part of one of the ties and one of the rails of a track. Fig. II shows a modified form of rail.

1 represents part of a tie, and 2 one of the rails of a railway-track.

3 is my improved third rail, which is supported on the ties between the track-rails. This rail is formed with channels 4 to receive the feed-in wires 5. The rail is made of any suitable material that will form a good conductor for electricity, and it is preferably formed with outer vertical faces 6, against which bear contact arms or shoes 7, that depend from the car-trucks and which are held in contact with the sides of the rail by a spring 8 or by other suitable means. I have shown the rail supported by a continuous sill or strip 9, that rests upon the ties and between which and the rail is located a continuous strip of insulation 10. Above the rail is a hood 11, insulated from the rail by a continuous strip 12. The rail is preferably formed with a groove 14 on its upper central face to receive the insulating-strip 12, and the lower part of the rail is preferably recessed to receive the strip 10, whereby the rail is held from lateral movement when the sill 9, insulating-strips 10 and 12, and the hood 11 are clamped to-

gether by means of bolts 15, these bolts being placed at a suitable distance apart (say about seven or eight feet) to bind the whole structure firmly together. One of the strips 10 or 11 (preferably the lower one) is formed with a projection or neck 16 for each bolt 15, whereby the rail 3 is insulated from the bolts.

In practice the wires 5 are laid in the channel or channels of the rail, and they may all be laid from one source of electric supply to the end of the line, or they may be laid in sets from different sources of supply located along the track. Electric connection is made between these wires and the rail at intervals where it is desired to feed in an additional amount of current—as, for instance, one of the wires, such as the lower wire shown in the drawings, may be left bare to feed in the current for a certain distance of track. Then an electric connection is made between one of the other wires, which may be insulated, and the rail which will feed in an additional amount of current for a certain distance, and then a connection is made between another one of the insulated wires and the rail, and so on. The rail thus forms a convenient, cheap, and effective manner of holding the feed-in wires, between which and the rail electric connection may be made as necessary.

While I have shown and prefer to form the rail with the channel 4 on each side, yet it is possible that my invention may in a degree be carried out by forming a channel on one side only of the rail, or, in other words, by the use of a single instead of a double rail.

Instead of making the rail in the form shown in Fig. I it may be made in channel-bar form, as shown in Fig. II, and when made in this form the strips 10 and 12 will bear, respectively, against the lower and upper faces of the central part of the rail.

I claim as my invention—

1. In an electric railway, a third rail formed with a channel in the upper side to receive feed-in wires, substantially as set forth.

2. In an electric railway, an insulation, and a third rail formed with a channel in the upper side on each side of and divided by the insulation, said channels being adapted to receive feed-in wires, substantially as set forth.

3. In an electric railway, a third rail formed



with channels in the upper side to receive feed-in wires and formed with outer faces to receive contact-shoes, substantially as set forth.

5 4. In an electric railway, a third rail formed with channels to receive feed-in wires and having outer vertical faces to receive contact-shoes, substantially as set forth.

10 5. In an electric railway, the combination of a third rail formed with a channel to receive feed-in wires, a sill for supporting the rail, a hood located over the rail, an upper strip of insulation located between the hood and the rail, and a lower strip of insulation  
15 located between the rail and the sill, substantially as set forth.

20 6. In an electric railway, the combination of a third rail formed with channels to receive feed-in wires, a longitudinal sill supporting said rail, a hood located over said rail, an upper strip of insulation located between said hood and the rail, and which is recessed

into the rail, and a lower strip of insulation located between the rail and the sill and which has a recessed bearing in the rail, substantially as set forth. 25

7. In an electric railway, the combination of a third rail provided with channels for receiving feed-in wires, a longitudinal sill for supporting the rail, and a hood located over  
30 the rail, substantially as set forth.

8. In an electric railway, the combination of a third rail formed with a channel to receive feed-in wires, a longitudinal sill supporting the rail, a hood located over the rail,  
35 strips of insulation located between the hood and the rail and between the rail and the sill, and connecting-bolts securing the parts together, substantially as set forth.

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In presence of—

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