

(No Model.)

G. W. CADY.
SUPPORT FOR RAILROAD RAILS.

No. 514,179.

Patented Feb. 6, 1894.

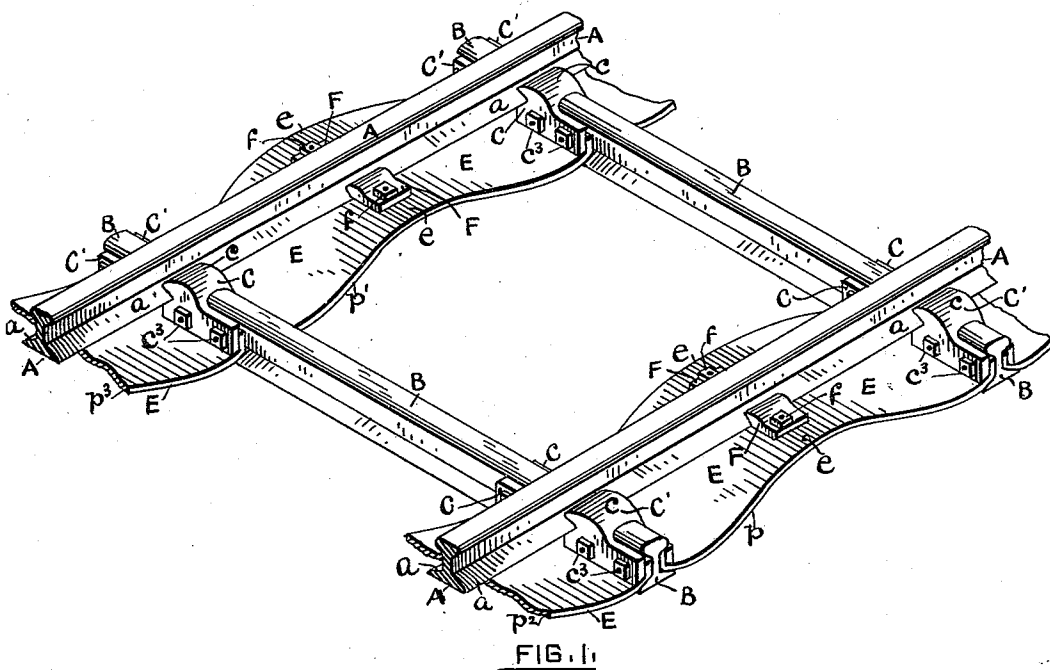


FIG. 1.

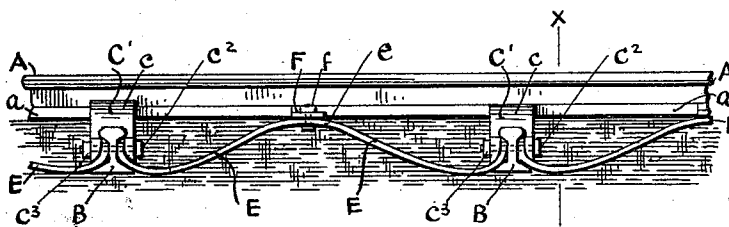


FIG. 2.



FIG. 3.



FIG. 4.

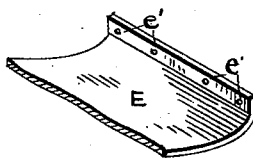


FIG. 5.

WITNESSES.

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SUPPORT FOR RAILROAD-RAILS.

SPECIFICATION forming part of Letters Patent No. 514,179, dated February 6, 1894.

Application filed January 21, 1893. Serial No. 459,276. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. CADY, of the city and county of Providence and State of Rhode Island, have invented a new and useful Improvement in Supports for Railroad-Rails; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a description thereof.

This invention relates to supports for the running rails of railways, the object being to provide a firm and enduring structure that can readily be made and assembled and any part of which can easily be removed and replaced when repairs thereto become necessary, and which will likewise admit of the rails being speedily removed and replaced by others when they become worn.

The invention consists in certain features of construction and arrangement hereinafter described and claimed.

In the drawings, Figure 1 represents in perspective a portion of two running rails with my improved support therefor. Fig. 2 shows a side view of the same. Fig. 3 represents a transverse section of one of the rails on line x of Fig. 2, showing a portion of a tie and the parts secured thereto. Fig. 4 represents an end view of one of the chairs. Fig. 5 shows in perspective an end portion of one of the supporting plates.

A A are the running rails, which may be of any suitable pattern.

B are the cross-ties, which extend transversely of the rails and furnish a support therefor. The ties, B, are of metal, and for the sake of economy may be of ordinary railroad iron—that is of the same cross-section as an ordinary rail. The rails A are secured to the ties B by chairs C C', which have noses, c , that overhang and engage the flanges, a , of the rails, and these chairs are slotted or grooved at c' , upon the under side, so they can fork the ties and be readily applied thereto.

For securing the chairs to the ties, suitable fastenings such as bolts c^2 , are employed, which pass through holes in the chairs and ties and are secured by nuts c^3 .

Extending between each tie B, and longitudinally under each rail A, are broad plates, E, which may be, say, eighteen inches in

width. These plates are bent upwardly, or made convex at their central portions, e , so as to engage the under side of the rails A, and furnish a support therefor at points midway between the ties. The ends of the plates E are also bent upwardly to pass up into the slot or groove in the chairs and between the chairs and ties, so that when the chairs are secured to the ties, the plates will be bound to the ties also, the plates preferably having holes, e' , Fig. 5, through which the bolts c^2 can pass. It is desirable to secure the rails to the plates, E, and this may be done by chairs, F, attached to the portions, e , of the plates by bolts and nuts f , which clamp the flanges of the rails to the plates. It is preferable, also, that the rails have an elastic packing between them and the ties, and this may be arranged by having sufficient space between the rails and ties to accommodate a piece or cushion of rubber or other elastic material, g , which is preferably surmounted by a metal plate, g' , as shown in Fig. 3.

In laying the rails A and their supporting structure, a suitably graded and prepared road bed is made, and the cross-ties B are distributed thereon, say about four feet apart. Two of the plates E ($p p'$, Fig. 1) are then placed between two of the ties, and two more plates E ($p^2 p^3$) against one of the ties. Four chairs, C, are then placed upon the ties at their proper gage-distance apart, and the four plates and chairs are secured to the two ties by the fastenings or bolts, c^2 . Other ties and plates are then continuously put in position and secured to each other by chairs C, in the same manner. The rails A are then placed upon the ties and brought into engagement with the chairs C, when the outer chairs, C', are placed upon the ties and are secured in place, as shown. If the chairs F be employed, they are then secured to the plates E. Earth or stone-ballast is then firmly tamped around the ties and plates and under the rails, thereby completing the work.

If desired, a number of ties B and plates E may be secured together, and the rail-supporting structure be transported to the road-bed in sections and the sections be then united. In some cases, as in supplying a road with a second or double track, the rail-supporting

structure may be assembled in sections the length of a rail, and the rails be secured thereto, and the sections be transported on cars, and be removed and located by the use of a
5 car-derrick.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with the running rails, of the metal ties B, extending transversely
10 under and forming a support for the rails—the chairs C C' slotted on the under side to fork the ties and having noses, c, to engage the flanges on the rails—the plates E extending between the ties and longitudinally under
15 the rails, and bent upwardly at the center to support the rails midway between the ties, the ends of said plates being bent upwardly between the chairs and ties—and bolts or fastenings for securing the chairs, plates and ties
20 to each other, substantially as set forth.

2. The combination with the running rails, of the metal ties B, extending transversely under and forming a support for the rails—the elastic cushions g, interposed between the
25 rails and ties—the chairs C C', slotted on the under side to fork the ties and having noses, c, to engage the flanges on the rails—the plates

E extending between the ties and longitudinally under the rails and bent upwardly at the center to support the rails midway between the ties, the ends of said plates being bent up between the chairs and ties—and bolts or fastenings for securing the chairs, plates and ties to each other substantially as set forth.
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3. The combination with the running rails, of the metal ties B, extending transversely under and forming a support for the rails—the chairs C C' slotted on the under side to fork the ties and having noses, c, to engage the flanges on the rails—the plates E extending between the ties and longitudinally under the rails, and bent upwardly at the center to support the rails midway between the ties—bolts or fastenings for securing the chairs, plates and ties to each other—and chairs F secured to the plates E and engaging the rails to hold them to the plates, substantially as set forth.
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Witnesses:

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