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J. H. MORGAN.

MEANS FOR ANCHORING THE COMBINED THIRD AND TRACTION
RAIL OF ELECTRIC RAILWAYS.

APPLICATION FILED JULY 6, 1903.

NO MODEL.

Fig. 2

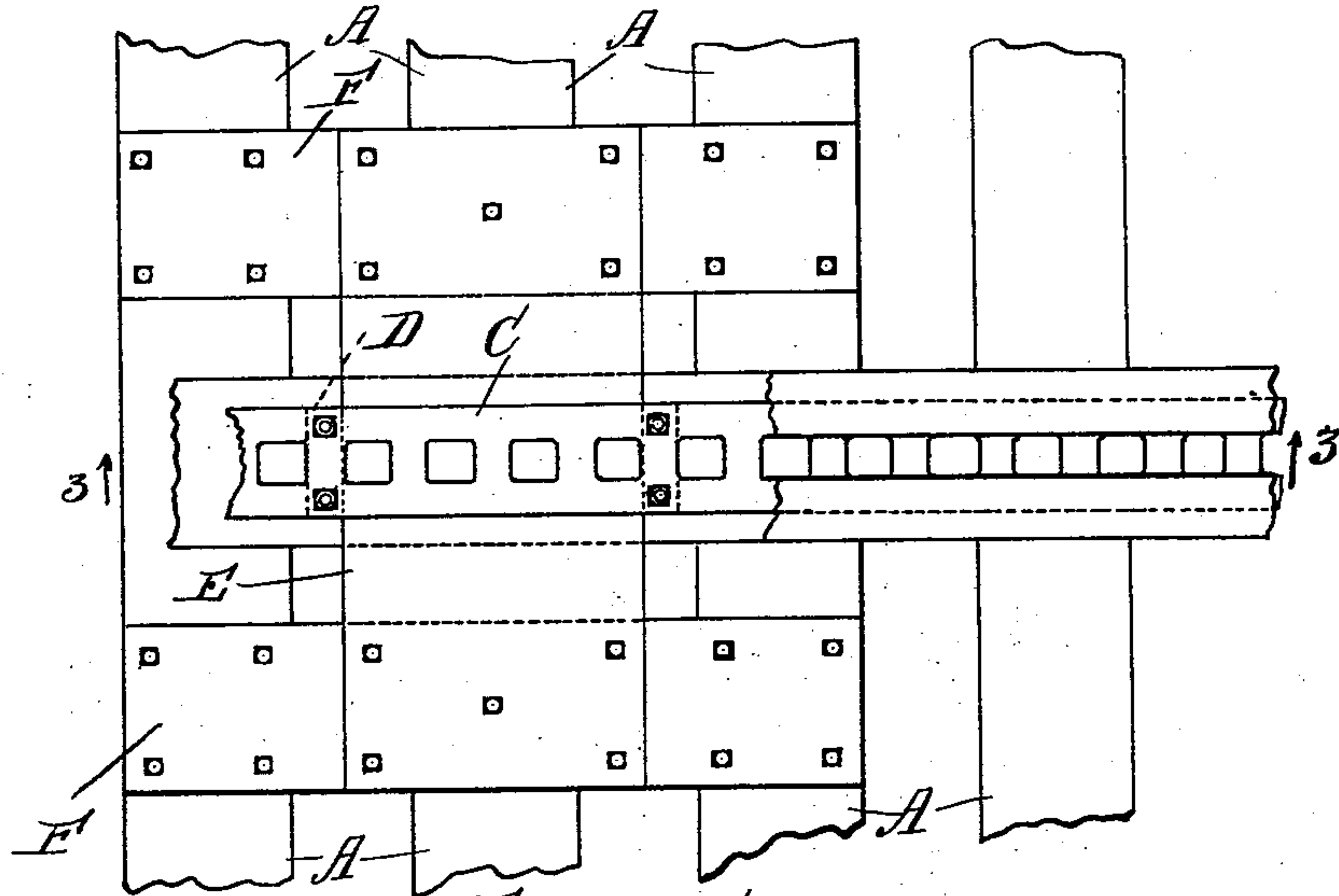


Fig. 3

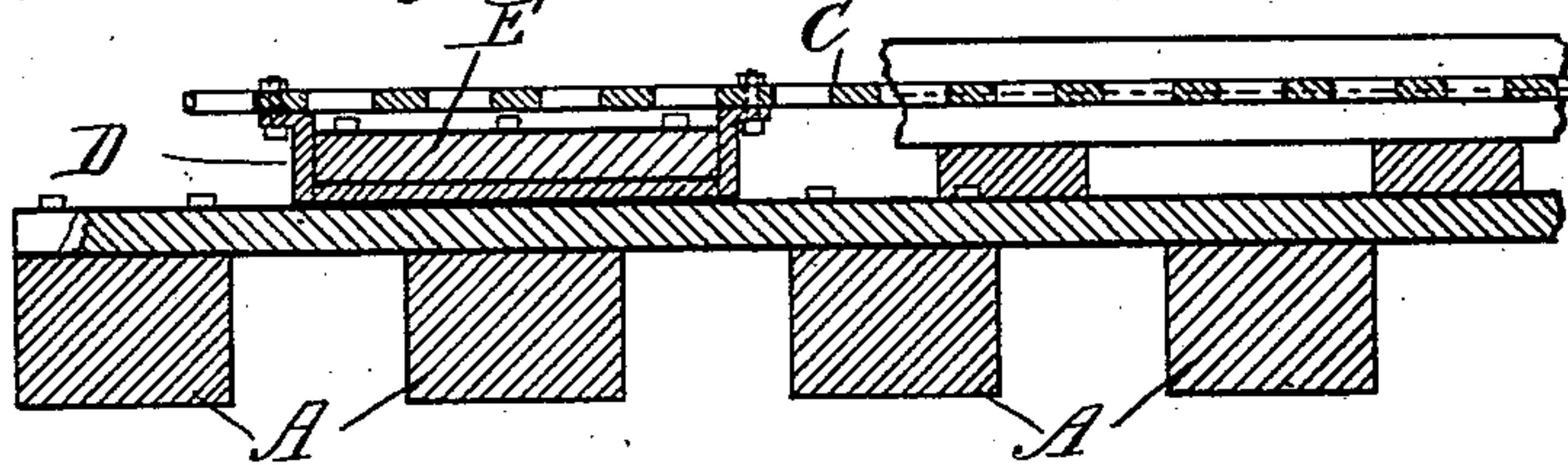


Fig. 1

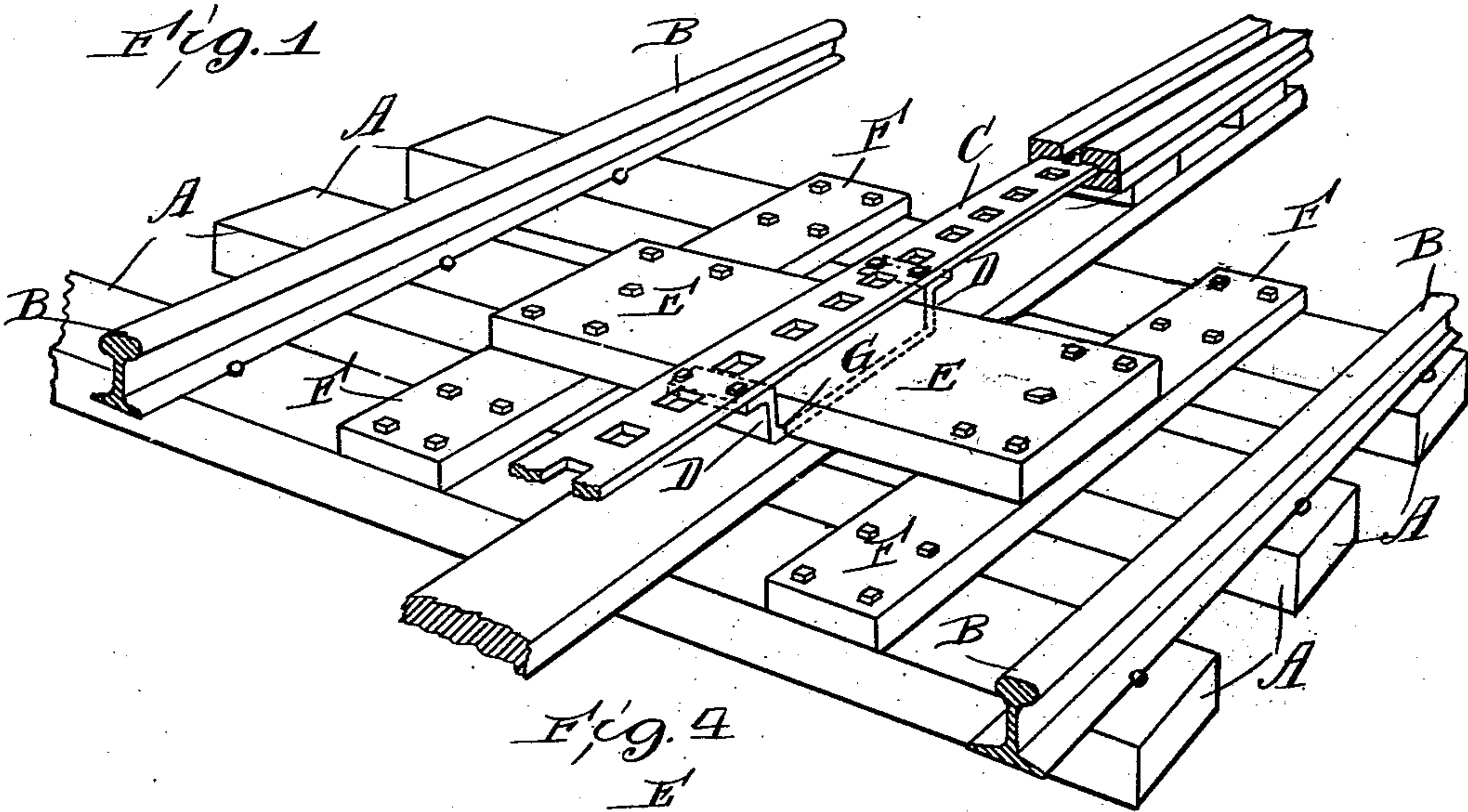
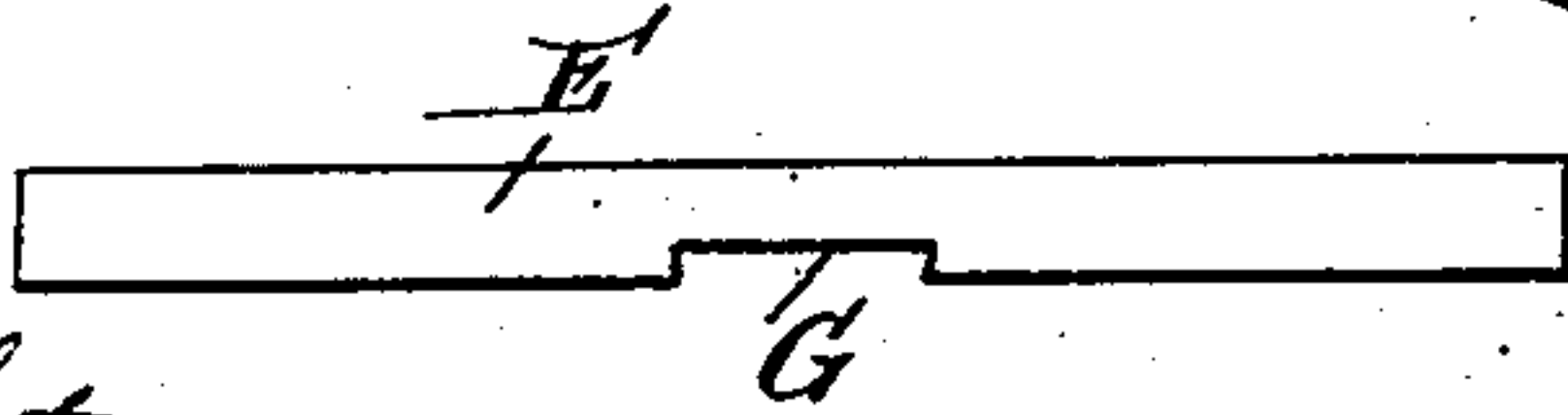


Fig. 4



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN H. MORGAN, OF CHICAGO, ILLINOIS.

MEANS FOR ANCHORING THE COMBINED THIRD AND TRACTION RAIL OF ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 750,880, dated February 2, 1904.

Application filed July 6, 1903. Serial No. 164,470. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. MORGAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Means for Anchoring the Combined Third and Traction Rail of Electric Railways, of which the following is a specification.

This invention relates to means for anchoring the combined third and traction rail of electric railways.

The object of the invention is to provide means which are simple and efficient for anchoring the combined third and traction rail of electric-railway systems, so as to prevent such rail from giving in the direction of the pull exerted thereon by the traction devices.

A further object of the invention is to provide means which are simple and efficient for preventing the combined third and traction rail of electric-railway systems from springing or buckling under the influence of the strains imposed thereon by the traction devices.

A further object of the invention is to provide means which are simple and efficient for preventing lateral movement of the combined third and traction rail of electric-railway systems, so as to avoid lateral displacement of the combined third and traction rail with reference to the vertical plane of operation of the traction devices associated therewith.

Other objects of the invention will appear more fully hereinafter.

The invention consists, substantially, in the construction, combination, location, and arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally pointed out in the appended claims.

Referring to the accompanying drawings, and to the various views and reference-signs appearing thereon, Figure 1 is a view in perspective, parts broken off, showing a section of a railway-track, including track-rails and their ties and a combined third and traction rail associated therewith and the application thereto of a construction of anchoring device embodying the principles of my invention. Fig. 2 is a top plan view of the same, parts

broken off. Fig. 3 is a view in section on the line 3 3, Fig. 2, looking in the direction of the arrows. Fig. 4 is a detached detail edge view of the anchoring-plate employed in connection with the principles of my invention.

In Patents Nos. 659,178 and 659,179, issued October 2, 1900, to E. C. Morgan and in pending applications for patents of E. C. Morgan, Serial Nos. 121,192 and 121,193, filed August 27, 1902, are set forth, shown, described, and claimed electric-railway systems wherein the motor is mounted on a truck which operates upon the track-rails and which carries traction devices engaging and coöperating with a combined third and traction rail, which combined third and traction rail is charged with current, whereby the same is supplied to the motor through the contacts of the traction-gear with such combined third and traction rail, said rail thus combining in itself a conductor for conducting the current to the motor and also a traction-gear through which propulsions of the truck is effected. In the practical operation of electric-railway systems of this class great difficulty has been experienced in holding the combined third and traction rail against endwise movement in the direction of the pull exerted thereon by the traction devices engaging therewith during the propulsion of the locomotive or truck. Difficulty has also been experienced in that the strains imposed upon the combined third and traction rail through the traction devices coöperating therewith are liable to cause the combined third and traction rail to buckle or spring or to shift or move laterally or sidewise, thereby destroying the proper alinement of the combined third and traction rail with reference to the vertical plane in which the traction devices or gears which coöperate therewith operate. It is among the special purposes of my present invention to overcome these difficulties and to provide means which are simple and effective, whereby the giving of the rail longitudinally in the direction of the pull exerted thereon or the buckling or springing of the rail or lateral movement thereof is prevented. In accomplishing these results in an anchoring device it is important to provide for the efficient

insulation of the combined third and traction rail in order to prevent leakage of the current from the third rail to ground.

Referring to the accompanying drawings and to the various views and reference-signs appearing thereon, reference-sign A designates the track-ties, upon which are placed the track-rails B in the usual manner.

C designates the combined third and traction rail and which may be arranged and supported in any convenient manner and relation, as is disclosed in the patents and applications for patents referred to.

The specific details of construction and arrangement of the combined third and traction rail and the manner of supporting the same and the relation thereof with reference to the road-bed and the track-rails are unimportant so far as my present invention is concerned and in the specific details thereof form no part of my present invention.

At suitable intervals throughout the length of the combined third and traction rail I suitably bolt or otherwise secure a bracket D upon the under side of the combined third and traction rail, and I arrange an anchor-bar E to extend transversely of said rail and through the bracket D. The anchor-bar E should be of suitable insulating material—such, for instance, as wood. By suitably bolting or otherwise securing the anchor-bar E to the road-bed an efficient anchoring device for the combined third and traction rail is provided. In the particular form shown, to which, however, my invention is not to be limited or restricted, the ends of the anchor-bar E are bolted or otherwise secured to short timber sections or pieces F, the latter being bolted or otherwise suitably secured to the track-ties A.

A construction embodying the principles above set forth affords simple and efficient means for anchoring the combined third and traction rail to prevent endwise give or movement thereof under the influence of the pull exerted upon such rail by the traction devices engaging therewith and firmly holds or locks the same in position against springing or buckling. In order to prevent lateral movement or displacement of the combined third and traction rail, I provide a recess or groove (indicated at G, Fig. 4) in the under side of the anchor-bar E and which receives the bracket therein, as clearly indicated in Fig. 1, thereby forming a lock for the anchor-bracket to prevent lateral movement or displacement thereof and of the combined third and traction rail.

A simple and convenient form of anchor-bracket is shown, but to which I do not desire to be limited or restricted, wherein I employ a U-shaped bracket, secured at its ends by bolting or otherwise to the under side of the combined third and traction rail, and the anchor-

bar E is shown as passing between the bracket and the combined third and traction rail, the bracket fitting into the seat or recess G formed in said bar.

Many variations and changes in the details of construction and arrangement would readily occur to persons skilled in the art and still fall within the spirit and scope of my invention. I do not desire, therefore, to be limited or restricted to the exact details shown and described; but,

Having now set forth the object and nature of my invention and a construction embodying the principles thereof, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent, is—

1. The combination with a combined third and traction rail, of an insulating anchoring device therefor to prevent movement thereof, as and for the purpose set forth.

2. The combination with a combined third and traction rail, an anchoring-bracket connected thereto, an anchor-bar engaging said bracket, and means for securing said bar to the road-bed, as and for the purpose set forth.

3. The combination with a combined third and traction rail, of a bracket connected to said rail, an insulating anchor-bar engaging the bracket, and means for bolting or otherwise securing said anchor-bar to the road-bed, as and for the purpose set forth.

4. The combination with a combined third and traction rail, an anchor-bracket secured thereto, an anchor-bar arranged to extend transversely of said rail and between said rail and bracket and engaging said bracket, and means for securing said anchor-bar to the road-bed, as and for the purpose set forth.

5. The combination with a combined third and traction rail, of an anchor-bracket secured to said rail, an anchor-bar having a seat or recess arranged to receive said bracket, and means for securing said anchor-bar to the road-bed, as and for the purpose set forth.

6. The combination with a combined third and traction rail, of an anchor-bracket secured thereto, an anchor-bar transversely arranged with respect to said rail and interposed between said rail and bracket, said anchor-bar having a seat or recess formed therein to receive said bracket, and means for securing said anchor-bar to the road-bed, as and for the purpose set forth.

7. The combination with a combined third and traction rail, of an anchor-bracket secured thereto, an anchor-bar engaging said bracket, anchor-timbers to which said anchor-bar is bolted or otherwise secured, and means for securing said anchor-timbers to the road-bed, as and for the purpose set forth.

8. The combination with a combined third and traction rail, of an anchor-bracket secured to the under side thereof, an anchor-bar interposed between said rail and bracket

and engaging the latter, and means for securing said anchor-bar, as and for the purpose set forth.

9. The combination with a combined third
5 and traction rail, of a U-shaped anchor-bracket secured to the under side of said rail, a transversely - extending anchor - bar recessed or grooved upon the under surface thereof, said
10 bar extending between said bracket and said rail and receiving the bracket in said groove

or recess, and means for securing said anchor-bar to the road-bed, as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 24th day of June, 1903, in the presence of the subscribing witnesses. 15

JOHN H. MORGAN.

Witnesses:

E. C. SEMPLE,

S. E. DARBY.