

No. 734,479.

PATENTED JULY 21, 1903.

G. A. WEBER.

INSULATED JOINT FOR RAILROAD RAIL SECTIONS.

APPLICATION FILED OCT. 9, 1902.

NO MODEL.

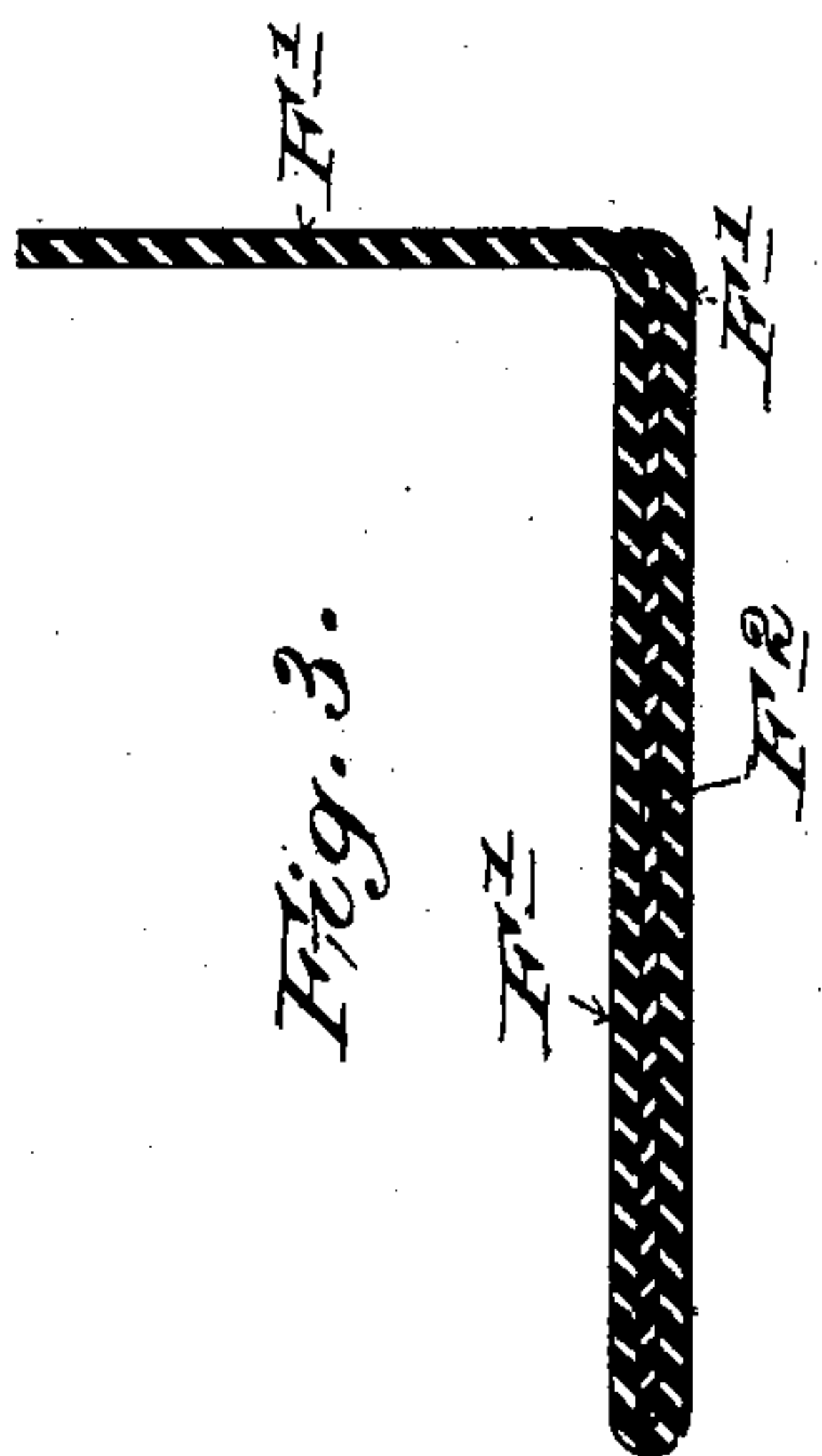


Fig. 3.

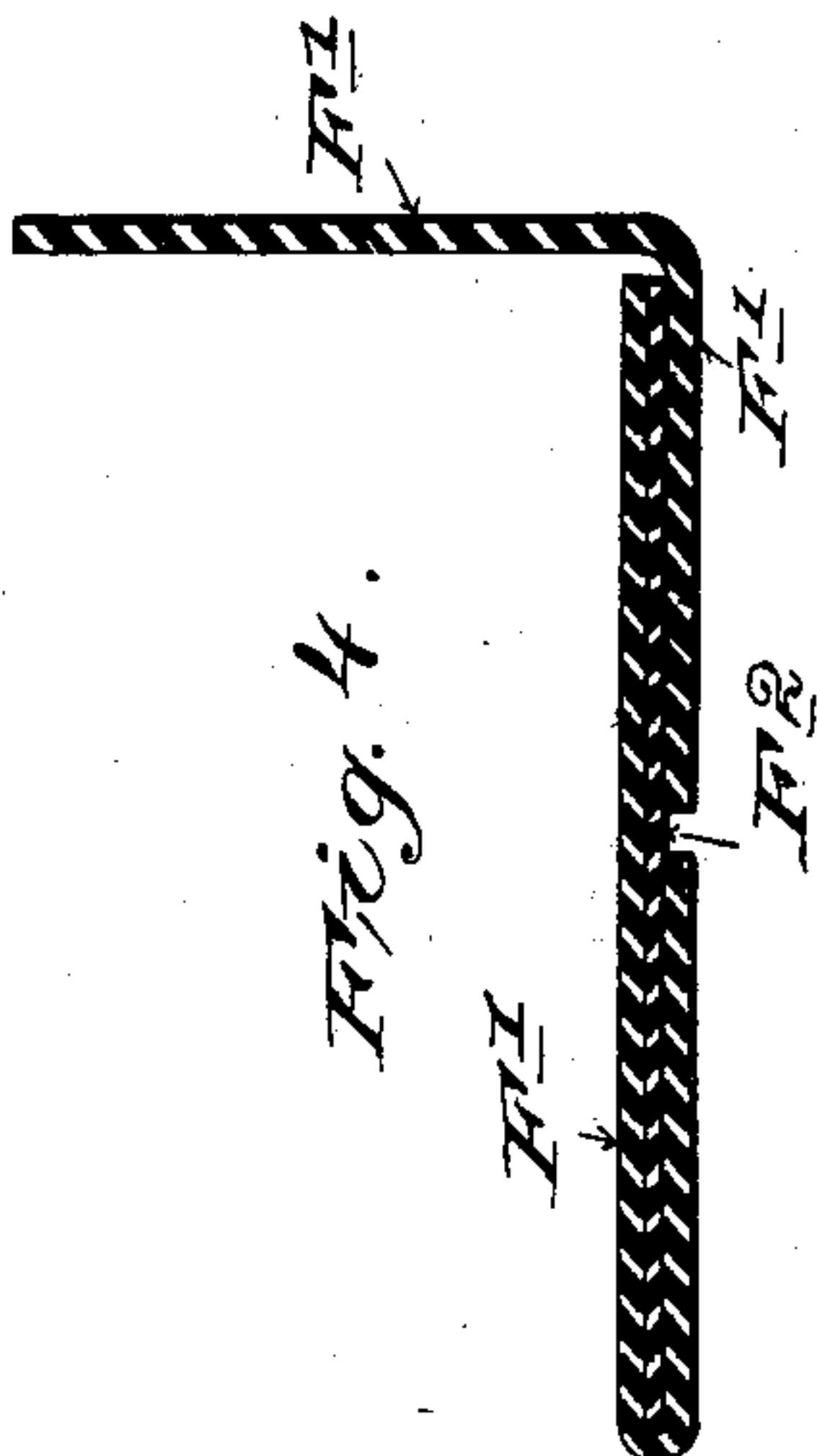


Fig. 4.

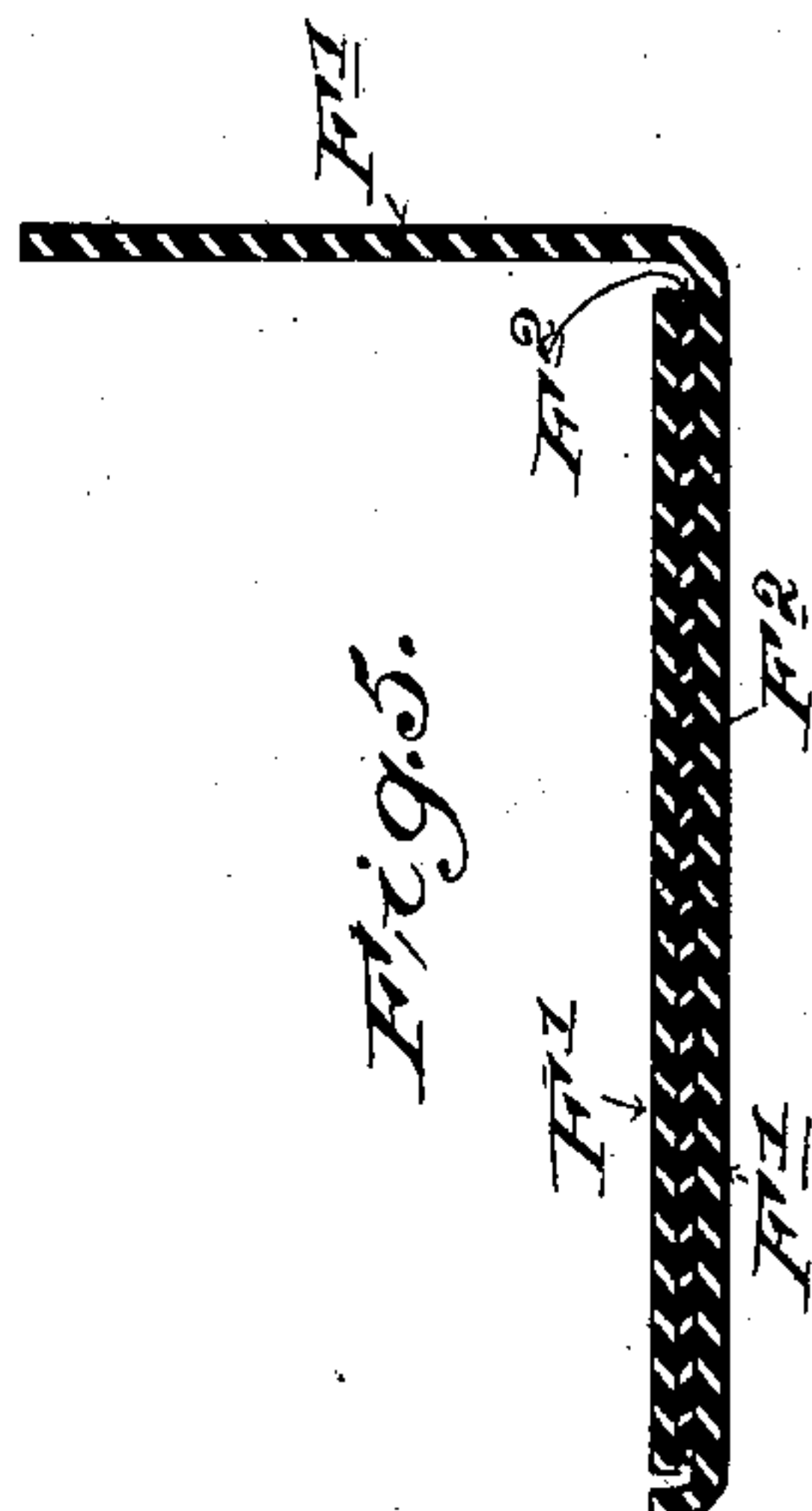


Fig. 5.

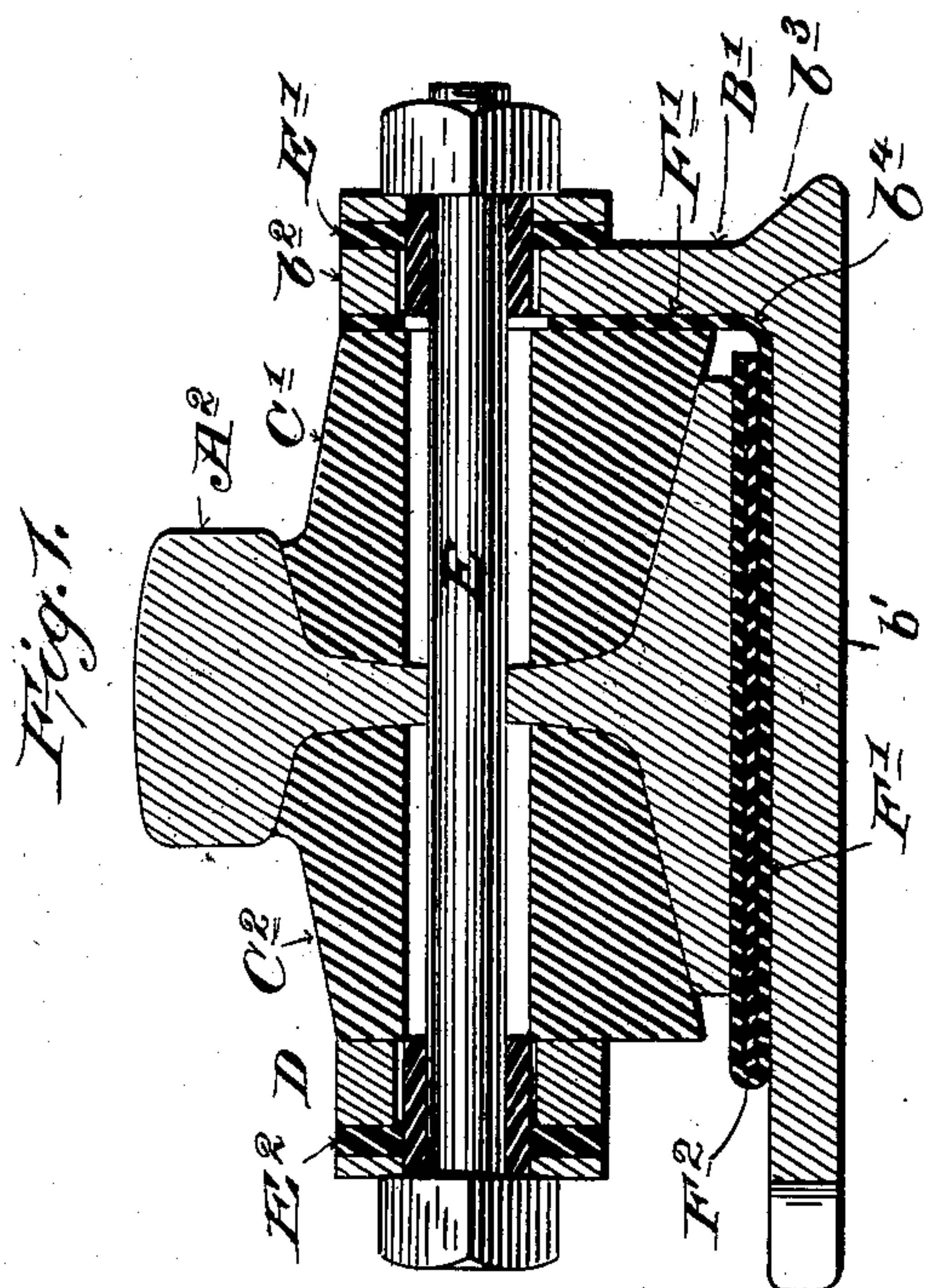


Fig. 1.

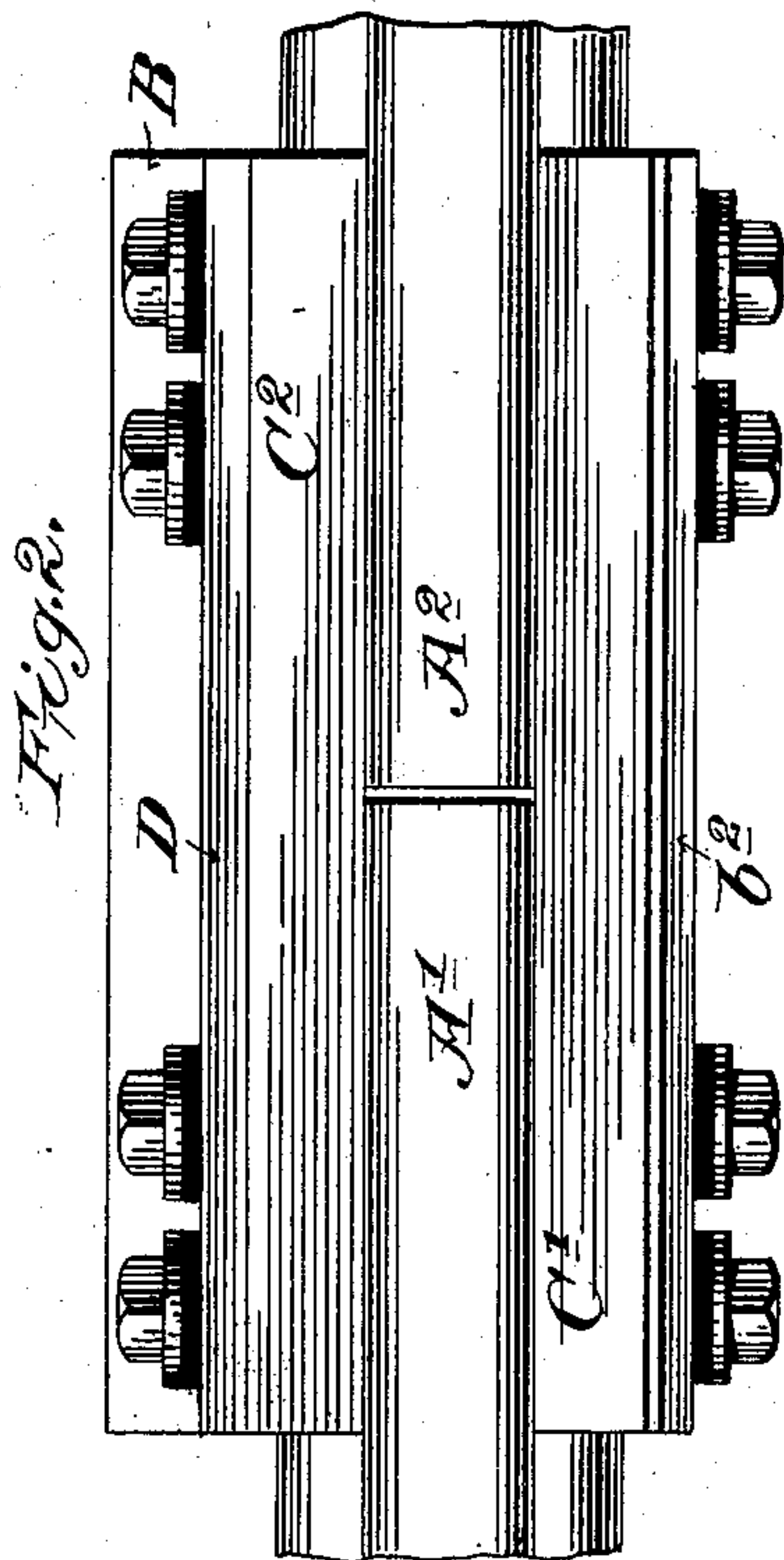


Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE A. WEBER, OF NEW YORK, N. Y., ASSIGNOR TO THE WEBER RAILWAY JOINT MANUFACTURING COMPANY, OF NEW YORK, N. Y.,
A CORPORATION OF WEST VIRGINIA.

INSULATED JOINT FOR RAILROAD-RAIL SECTIONS.

SPECIFICATION forming part of Letters Patent No. 734,479, dated July 21, 1903.

Original application filed December 24, 1901, Serial No. 87,053. Divided and this application filed October 9, 1902. Serial No. 126,527. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ADAM WEBER, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Insulated Joints for Railroad-Rail Sections, of which the following is a full, clear, and exact description, accompanied by drawings.

The object of this improvement is to produce a more efficient insulated joint for railroad-rail sections which shall not require insulation between the webs of the rails and the bolts which secure the parts together at those points where said bolts pass through said webs.

I will describe a joint embodying the improvement in the best form now known to me and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a transverse section of a railroad-rail joint embodying my improvement. Fig. 2 is a top view of the same. Fig. 3 is a transverse section of certain parts, illustrating a modification. Fig. 4 is a transverse section of the same parts, illustrating another modification. Fig. 5 is a transverse section of the same parts, illustrating another modification.

Similar letters of reference designate corresponding parts in all the figures.

A' A² designate railroad-rail sections of any suitable form, arranged in line.

B' designates an angle-chair, preferably made of rolled steel and comprising a base b' and an upright b², preferably strengthened at their junction by means of an outside fillet b³. It may also be provided with an inside fillet b⁴, which will still further strengthen the structure.

C' and C² designate pieces of packing material, which may be of wood. They are arranged on opposite sides of the rail-sections and preferably extend across adjacent ends of the same longitudinally. One of these pieces of packing material (designated by C') is arranged intermediate of the upright b² of the angle-chair B' and the webs of the rail-sections A' A². The other piece of packing material

(designated as C²) is arranged intermediate the other sides of the webs of the rail-sections, and a metal bar, (designated as D,) which preferably will be made of rolled steel and extends across adjacent ends of the rail-sections and approximately the length of the said pieces of packing material, arranged contiguously thereto.

E designates bolts for securing said parts together by passing through said upright of said angle-chair, said pieces of packing material, and said metal bar.

In order to prevent an electric current passing from one of the adjacent rail-sections to the other, it is necessary to insulate said sections and the above-mentioned parts, so as to insure a break for the stoppage of the current at at least one point in each electric contacting part or parts, which would otherwise form an electrical connection between the two rail-sections. My preferred construction for accomplishing this result is as follows: Insulating material is arranged along the entire surfaces of both the upright and base of the angle-chair and intermediate not only said upright and the packing contiguous thereto, but said base and the base of the rail-sections. Such an insulator is designated in the drawings as F' and may, as there shown, extend continuously downwardly along the entire side of the upright and thence along the base of the angle-chair. One or more additional layers of insulating material, such as designated by F², may also be arranged intermediate the bases of the angle-chair and the rail-sections. The ends of the adjacent rail-sections are insulated from each other by suitable means—as, for example, an air-space, as shown. The washers E' and E², of insulating material, arranged intermediate the heads of the bolts and the upright and metal bar, respectively, and sleeves or bushings, also of insulating material, surrounding the bolts, as shown, throughout that portion of said bolts which pass through said upright and said metal bar, insulate the bolts from both said bar and said upright.

In Fig. 3 I have shown that the returning portion of the sheet F', which is above the

base of the angle-chair, may pass under the main portion instead of over it.

In Fig. 4 I have shown that two sheets of material F' may be used instead of a single sheet and that the joint between these two pieces may be at such point as to be above the middle portion of the base of the angle-chair. In Fig. 5 I have also shown two sheets F' , but with a division at such point as to be near the outer edge of the base of the angle-chair.

It will be seen that according to my construction where all the bolt ends and heads are insulated current cannot pass from rail to rail through either the chair or metal bar without passing insulation at two points because of there being insulation between both rail ends and the bar and chair. This double insulation, though preferred, is not, therefore, essential.

This application is a division of my application, Serial No. 87,053, filed December 24, 1901, and I do not herein claim any of the features claimed in the aforesaid application.

The intermediate layer F^2 of insulation is preferably of micaceous material or a sheet of mica, while the insulating-packing F' is of vulcanized fiber or other similar tough material, and it will be seen that by inclosing the micaceous material F^2 by the packing F' the intermediate layer is effectually prevented from injury, and by reason of its high insulating qualities serves to thoroughly insulate the joint.

I do not herein claim, broadly, an insulated rail-joint of the character described embodying the strengthening strap or band extending across the joint opposite the upright of the chair, as insulated joints embodying this feature in various forms are claimed in my copending applications, Serial Nos. 63,124 and 63,125, filed June 4, 1901; Serial No. 87,053, filed December 24, 1901; Serial No. 124,193, filed September 20, 1902, and Serial No. 133,770, filed December 3, 1902.

Obviously some features of the invention may be used without other features and may be embodied in widely-varying forms. For this reason I claim the following:

1. In an insulated joint for railroad-rail

sections, the combination with an angle-chair and side pieces lapping the ends of adjacent rail-sections, of insulating material extending downwardly along the inner side of the upright of the angle-chair, insulating material extending over the upper surface of the base of the angle-chair and folded over and thence returning toward the upright of the angle-chair.

2. In an insulated joint for railroad-rail sections, the combination with an angle-chair and side pieces lapping the ends of adjacent rail-sections, of insulating material extending downwardly along the inner side of the upright of the angle-chair, insulating material extending over the upper surface of the base of the angle-chair and folded over and thence returning toward the upright of the angle-chair, and a sheet of other insulating material infolded by the insulating material last named.

3. In a rail-joint, the combination with rail ends to be insulated one from the other, of a suitable support for said rails, and means for holding the rails in proper alinement, a thin layer of relatively high insulation arranged between thicker layers of tougher material of relatively lower insulation, said layers of insulation being arranged between at least one of the rails and the support, for substantially the purposes set forth.

4. In a rail-joint, the combination with rail ends to be insulated one from the other, of a suitable support for said rails, and means for holding the rails in proper alinement, insulating material arranged beneath at least one of the rails, extending over the upper surface of the base of the rail-support and folded over, and thence returning upon itself, and means for maintaining said insulation in position upon the support, for substantially the purposes set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE A. WEBER.

Witnesses:

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N. HENDERSON.