(No Model.)

F. E. KINSMAN.

INSULATING CHAIR FOR RAILS.

No. 486,477. Patented Nov. 22, 1892.

Fig. 2.

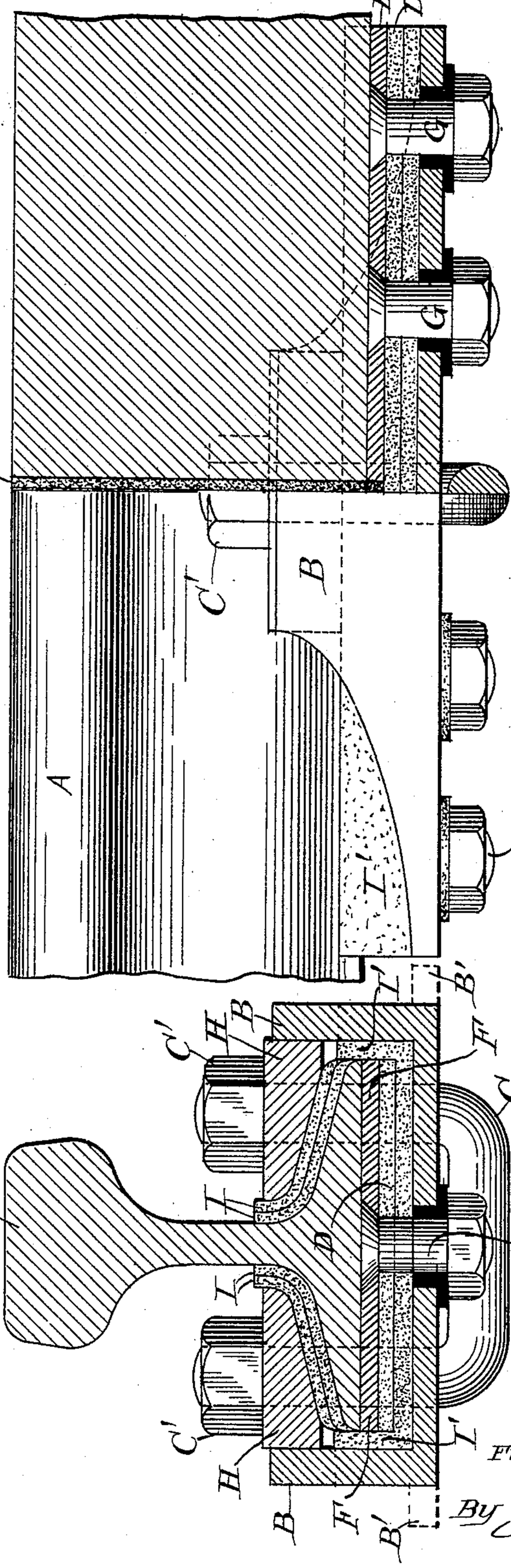

Fig. 1.

ATTEST:
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UNITED STATES PATENT OFFICE.

FRANK E. KINSMAN, OF PLAINFIELD, NEW JERSEY.

INSULATING-CHAIR FOR RAILS.

SPECIFICATION forming part of Letters Patent No. 486,477, dated November 22, 1892.

Application filed February 23, 1892. Serial No. 422,348. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. KINSMAN, a citizen of the United States, and a resident of Plainfield, in the county of Union and State of New Jersey, have invented a certain new and useful Insulating-Chair for Rails, of which the following is a specification.

My invention relates to the means for insulating a railway-rail from the iron or other metal chair on which it rests, and is designed more especially to provide for the insulation of the contiguous ends of two rails from one another where they rest in a common chair or support.

The special object of the invention is to provide for the insulation of the rail by a durable and effective device which shall be free from the objections belonging to the devices heretofore employed in respect to the disintegration or destruction of the insulating material through the abrading or pounding action of the rail and to the liability of short circuits or defect of insulation through the entrance of moisture between the surfaces of the plates or layers of insulating and conducting substance.

The invention consists, essentially, in the combination, with a railway-chair upon which the foot of the rail rests, of one or more plates or sheets of insulating material interposed between the chair and rail and a plate of metal—such, for instance, as wrought-iron—superposed upon the sheet or plate of insulating material and tightly clamped thereto, as hereinafter described.

My invention consists, further, in details of construction hereinafter more particularly described, and then specified in the claims.

In the accompanying drawings, Figure 1 is a vertical cross-section through an insulating-chair and rail combined in accordance with my invention. Fig. 2 shows the chair, one half of the chair in side elevation and the other half in longitudinal vertical section, with the abutting ends of two rails resting in position on the chair.

A is the rail.

B is the metal chair, which is fastened or secured in any proper manner to the tie and which is designed and constructed after the manner of railway-chairs which receive and support the foot of the rail. The chair B is shown herein with vertical flanges designed to prevent sidewise movement of the rail. They may be secured by spikes at the ends of the chair B or by spikes engaging with longitudinal flanges B′, such as indicated in dotted lines in Fig. 1.

C indicates the usual yoke, designed to clamp the rail down upon the chair and provided, as usual, with the nuts C′ at its upper end above the foot of the rail. The sides of the yoke pass, as usual, through notches in the edge of the foot.

D indicates a plate of any suitable insulating material, between which and the rail is interposed a plate F, of iron or other metal, adapted to resist wear and the shock of impact, and thereby to protect the insulating material D from disintegration through the action of the foot of the rail upon it. The plate of iron F or other suitable material is firmly clamped to plate D by means of bolts G, the heads of which are countersunk in the plates F, as shown, and are insulated from said plate and from the chair-base by bushings and washers of insulating material. By means of these bolts the plates of iron and insulating substance and the chair-base may be firmly and tightly clamped together, so as to form a joint practically proof against the entrance of moisture between the surfaces clamped together.

I do not limit myself to the use of the yoke C for securing the rail to the chair, as it would be within my invention to fasten the rail down upon the chair and the tie by other means known in the art.

H H indicates plates interposed between the heads of the bolts C′ and the foot or flange of the rail, and designed to give an extended bearing, so as to more firmly hold the rail in place. Between the plates or blocks H and the foot of the rail are interposed one or more layers of insulating material I. Insulating material I′ is also interposed between the edges of the iron plate F and the sides of the chair.

K indicates a vertical block of insulating material interposed between the ends of the rails and extending down, preferably, sufficiently far to separate the plate F under one rail from the plate F under the other.

By my invention I provide an insulating-

chair by means of which the ends of the rails may be effectually insulated from one another in damp or wet localities and which will, moreover, stand long wear without breaking down mechanically of the insulation which receives the weight of the rail.

What I claim as my invention is—

1. In an insulating-chair for railway-rails, the combination, with the iron chair B, supporting the rail, of the interposed plate or plates of insulating material D and a plate F, of iron or other metal, clamped to said insulation.

2. In an insulating-chair for railway-rails, the combination, substantially as described, with the metal chair B, of the plate or plates D of insulating material, the iron plate F, upon which the foot of the rail rests directly, and the bolts G, clamping the insulation between the base of the chair and the plate F.

3. In an insulating-chair for railway-rails, the combination, substantially as described, of a chair B, supporting the abutting ends of two rails, one or more layers or sheets of insulating material extending under said abutting ends, the separate plates of iron or other material interposed between the foot of each rail and the base of the chair or separated from one another at the joint between the rails, and the block of insulating material K, interposed between the abutting ends of the rails and the two plates F.

4. The combination, with a railway-rail and its support, of an interposed sheet or plate of insulating material and a plate F, of iron or other metal, clamped down upon the insulation, so as not to move with the rail.

Signed at New York, in the county of New York and State of New York, this 20th day of February A. D. 1892.

FRANK E. KINSMAN.

Witnesses:

WM. H. CAPEL,

THOS. F. CONREY.