(No Model.)

T. O'BRIEN, Jr.

INSULATED JOINT FOR RAILROAD RAILS.

No. 599,081. Patented Feb. 15, 1898.

Fig. 1.

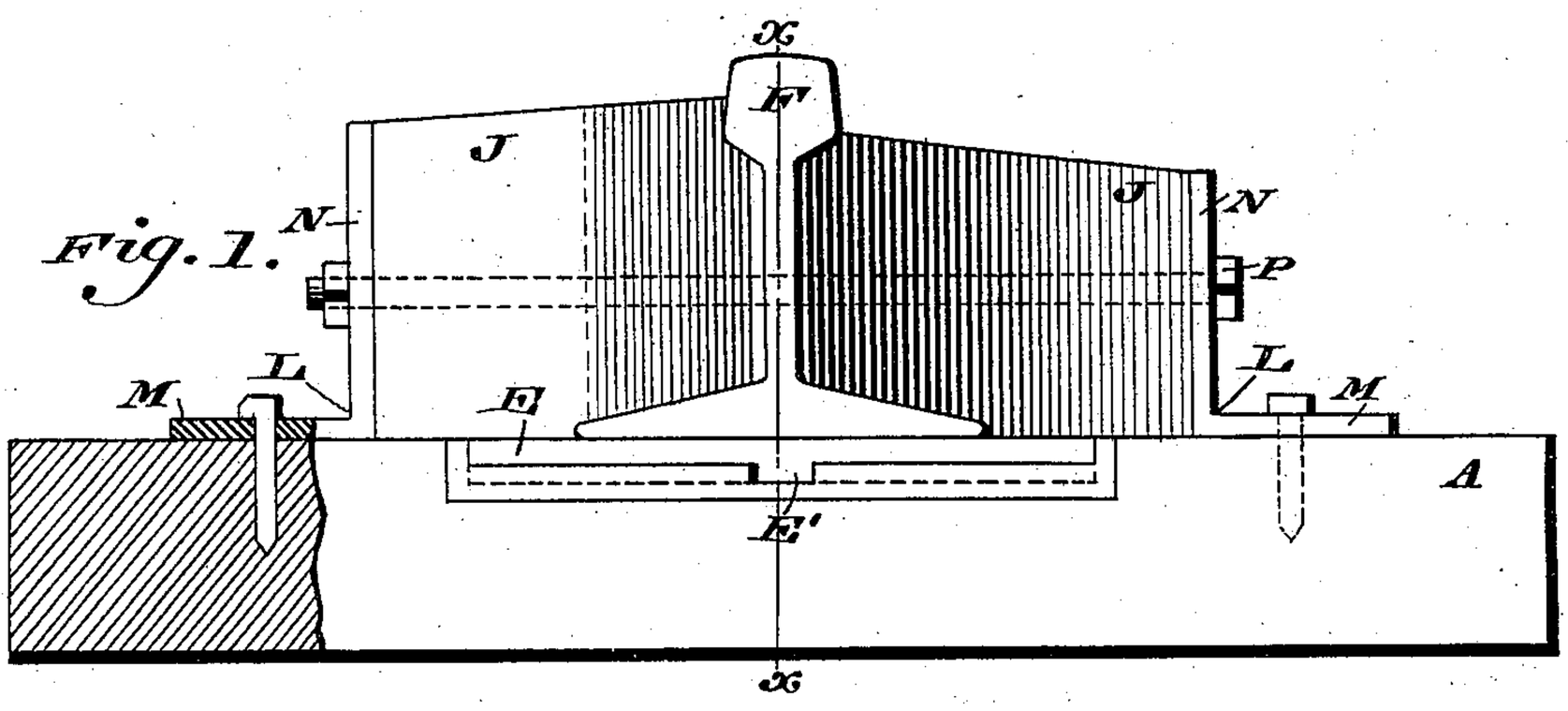


Fig. 2.

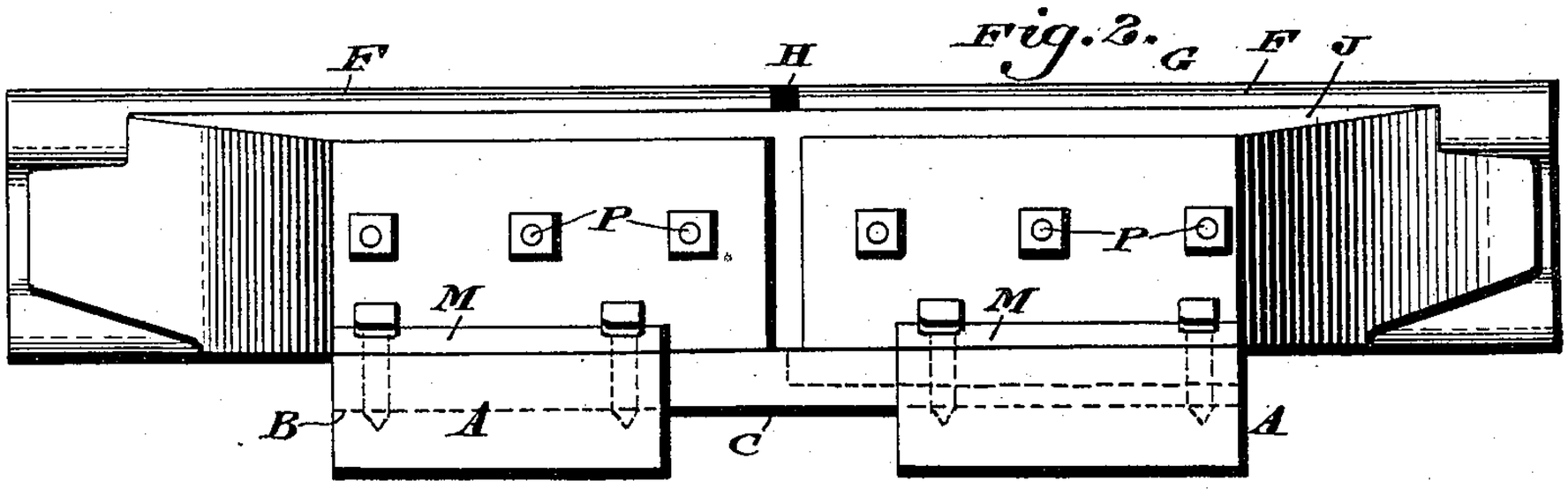


Fig. 3.

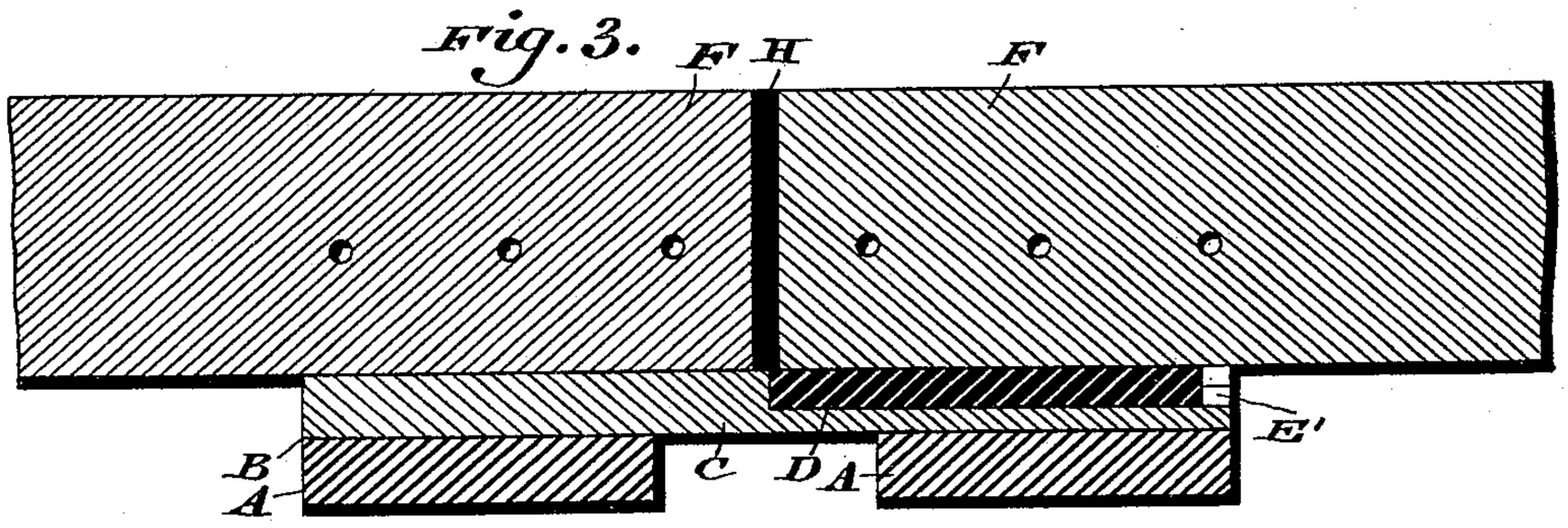
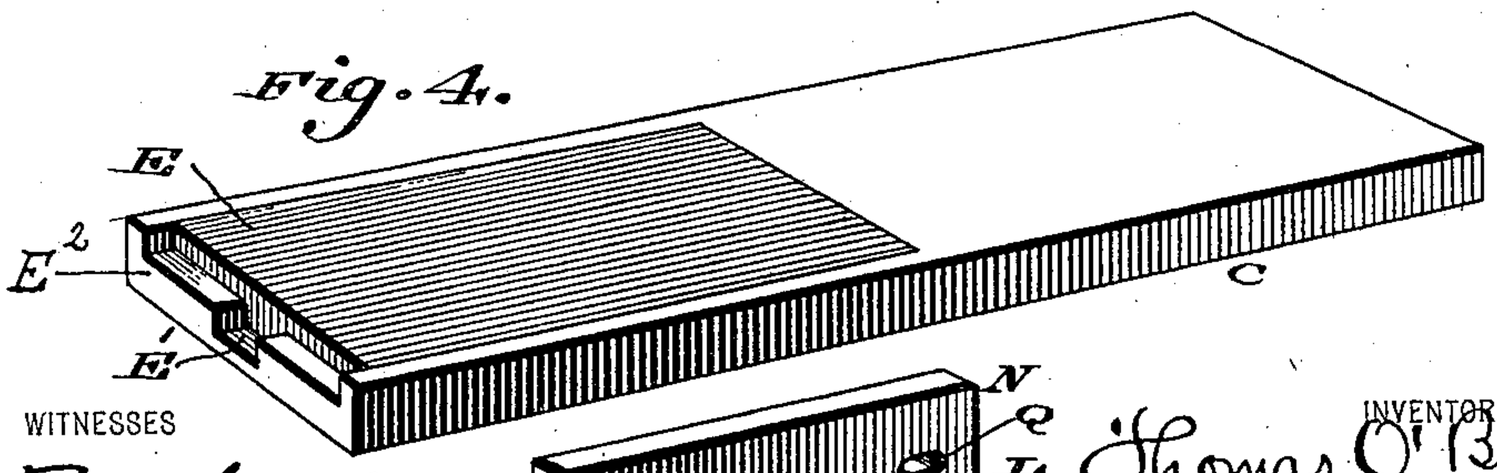


Fig. 4.



WITNESSES

P. F. Eagle.

L. Dowville.

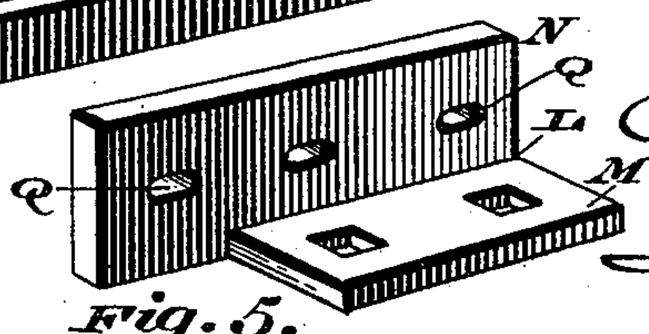


Fig. 5.

INVENTOR.

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INSULATED JOINT FOR RAILROAD-RAILS.

SPECIFICATION forming part of Letters Patent No. 599,081, dated February 15, 1898.

Application filed June 4, 1897. Serial No. 639,421. (No model.)

To all whom it may concern:

Be it known that I, THOMAS O'BRIEN, JR., a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Insulated Joints for Railroad-Rails, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of an improved means for insulating railroad-joints for electrical signals which is an improvement in various details on a prior patent granted to me in the same class of invention, No. 546,494, and bearing date of September 17, 1895, the number of parts being reduced to a minimum and the effectiveness of the device being greatly increased.

It further consists of novel details of construction, all as will be hereinafter fully set forth, and pointed out in the claims.

Figure 1 represents an end view, partly in section, of a means for insulating railroad-joints embodying my invention. Fig. 2 represents a side elevation thereof. Fig. 3 represents a vertical section on line *x x*, Fig. 1. Fig. 4 represents a perspective view of a metal plate employed, showing the insulation seated therein. Fig. 5 represents a perspective view of a railroad-chair forming part of my invention.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates wooden cross-ties of the usual construction which are provided with recesses B therein, the depth of which will be understood from Figs. 2 and 3, said recesses having located therein the metal or steel plates C, which are provided at or near an extremity thereof with the seat or recess D, in which is located the insulating-block E, which may be of wood or other similar material, the depth of said recess being evident from Fig. 3. The end wall E^2 is cut away along its upper edge, so as to be below the upper surface of the block E.

E′ designates an opening at or near the end of the plate C in proximity to the insulating-block E for the purpose of the insertion of a suitable implement therein, whereby the block E can be lifted from position when it is desired to remove or replace the same.

F designates the extremities of a pair of rails, the same being separated from each other by suitable insulation H, it being noted that while the extremity of one of the rails F rests on the metal plate C the extremity of the other adjacent rail rests only on the insulation E and is thus insulated from the metal plate C and also the adjacent rail. It is to be observed that the end of the rail resting on the block E does not contact with the end wall E^2, as the latter is cut away so that its upper edge is below the upper face of the insulating-block.

J designates blocks of wood or other insulating material, which are placed on either side of the rail and are shaped so as to conform to the contour thereof, said blocks being held in position by means of the chairs or angle-irons L, which latter are provided with the feet or laterally-extending portions M, which are secured to the ties A, while the upright members N contact with the insulating-blocks J and are held in position by the bolts P, said bolts passing through the oval or elliptical slots Q in the upright members N of said chairs and also through the alining openings in said blocks and web of the rail.

It will be evident that the right-hand rail F is insulated from the ties A by means of insulation E and also from the rail F by means of the insulation H, and both rails are further insulated from their chairs by means of the wooden blocks J, by which provision electric continuity of the rails is broken at places where conductors of an electric signal are employed, so that the current passes from one rail to the mechanism of the signal (not shown) and thence through the latter to the adjacent rail.

It will be evident that changes may be made by those skilled in the art which will come within the scope of my invention, and I therefore reserve to myself the right to make such changes as will come within the spirit thereof.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an insulated railroad-joint, a cross-tie of non-conducting material, a metallic plate seated on said cross-tie having a recess formed in its upper face near an end thereof, an insulating-block seated in said recess and sub-

stantially surrounded by the walls thereof and held thereby against accidental displacement, a rail having an end resting on the non-recessed end of said metallic plate, a rail having an end resting on said insulating-block, and insulation interposed between the ends of said rails.

2. In an insulated railway-joint, a cross-tie of non-conducting material, a metallic plate seated on said cross-tie having a recess formed in its upper face near an end thereof and having the end wall of said recess cut away along its upper edge, an insulating-block mounted in said recess and substantially surrounded by the walls thereof and held thereby against accidental displacement, a rail having an end resting on the non-recessed end of said metallic plate, a rail passing above the cut-away wall of said recess and resting on said insulating-block, and insulation interposed between the ends of said rails.

3. In a joint of the character named, a metal plate having a recess therein, and an insulating-block located in said recess, a portion of a wall of said block being cut away for the insertion of a suitable implement, in combination with rails supported on the metallic and insulated portions respectively, the ends of said rails being insulated from each other, and insulating devices for holding said rails in position.

4. In a joint of the character described, a metallic plate having an insulating-block seated therein, said plate having a cut-away portion in a wall thereof for the insertion of a suitable implement for removing or replacing said block.

THOMAS O'BRIEN, JR.

Witnesses:
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