(No Model.) 2 Sheets—Sheet 1.

R. HERMAN.

RAIL JOINT.

No. 514,224. Patented Feb. 6, 1894.

FIG. 1.

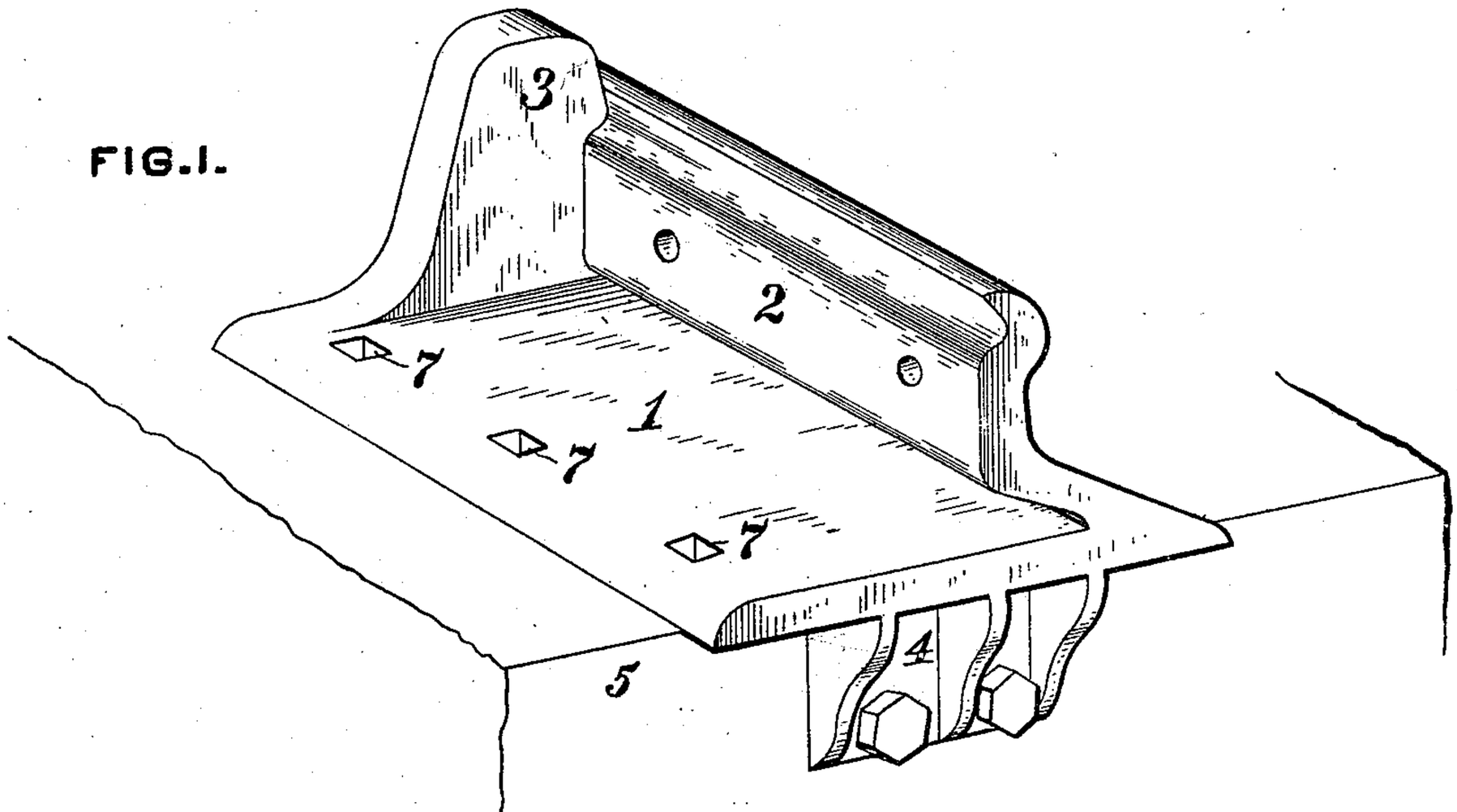


FIG. 2.

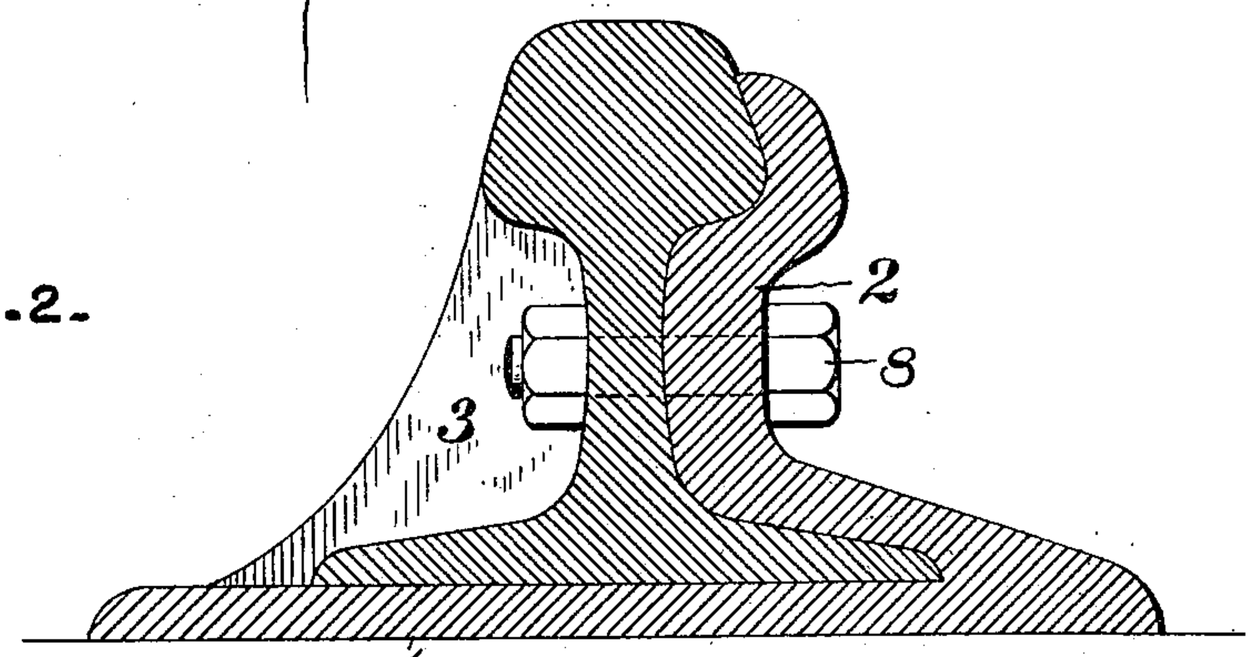
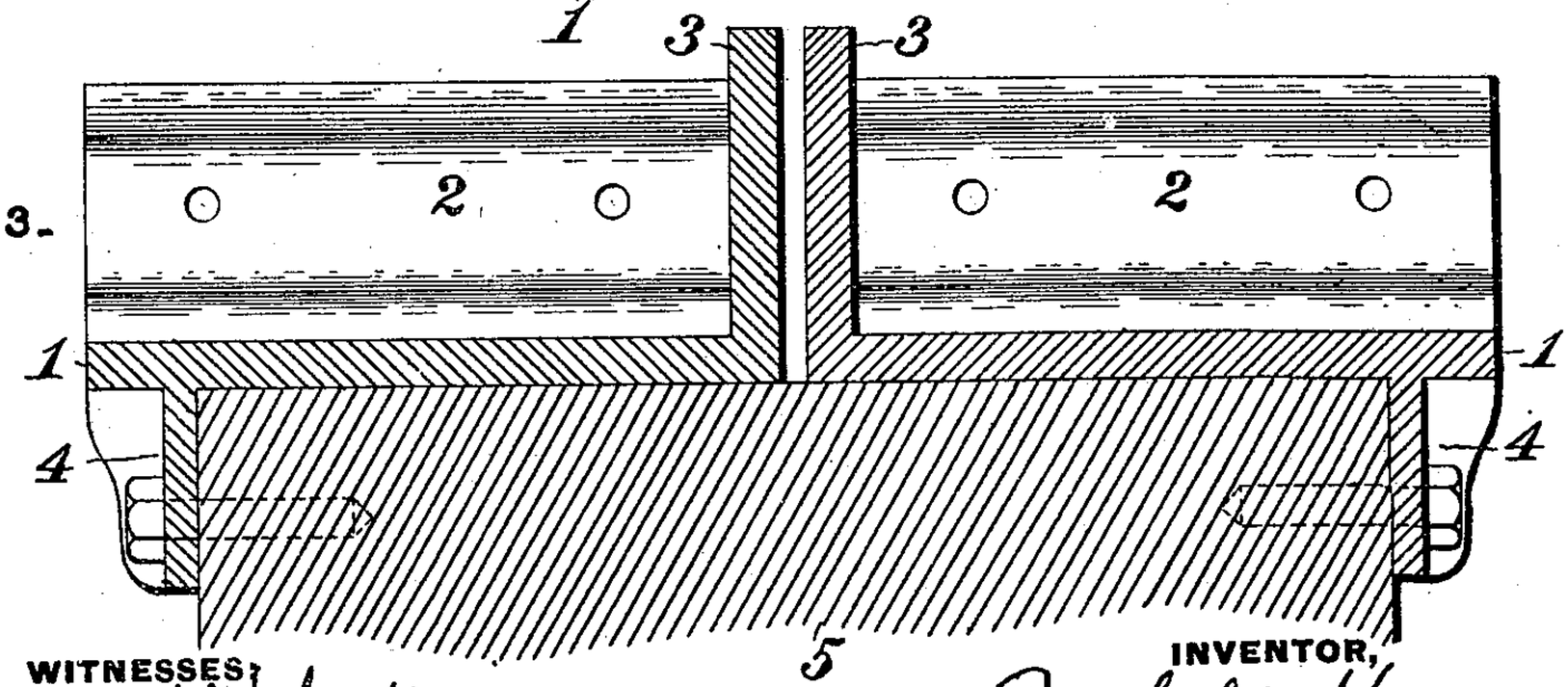


FIG. 3.



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(No Model.) 2 Sheets—Sheet 2.

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FIG. 4.

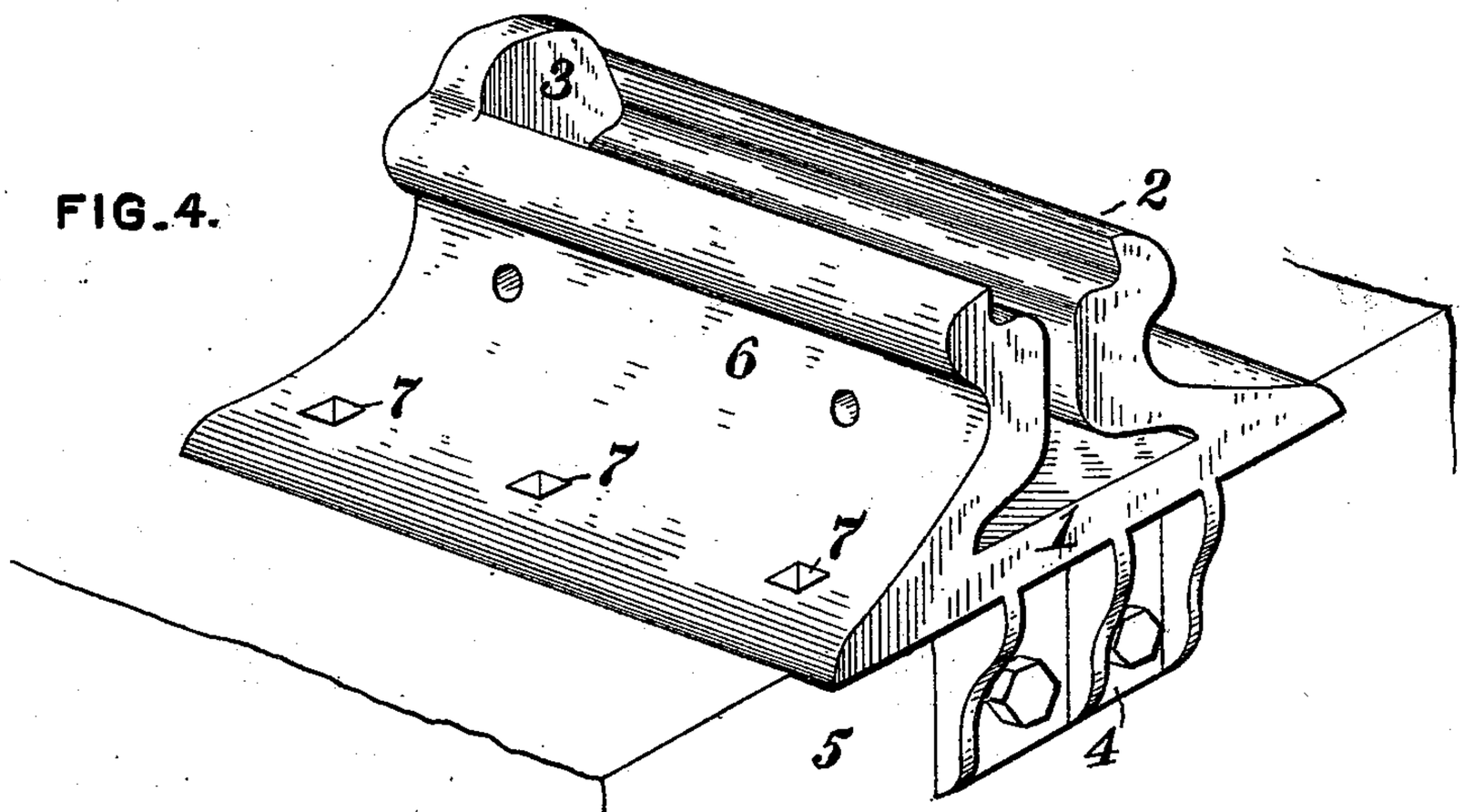
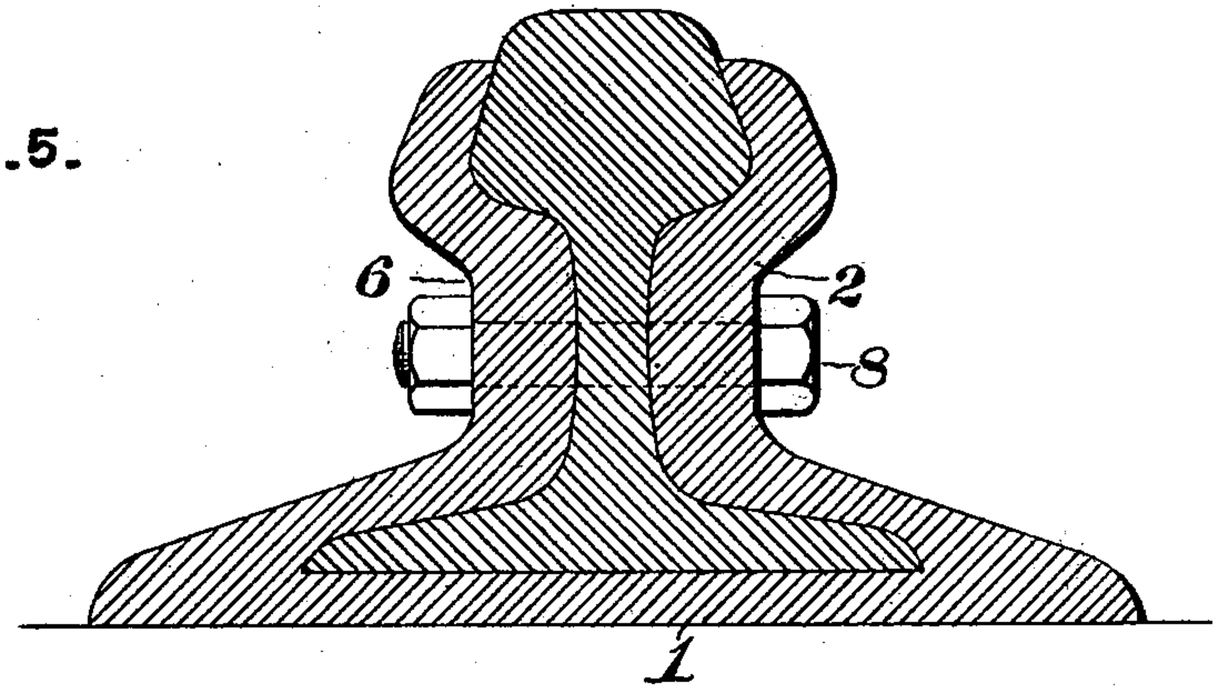


FIG. 5.



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UNITED STATES PATENT OFFICE.

REINHOLD HERMAN, OF CRAFTON, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 514,224, dated February 6, 1894.

Application filed June 23, 1893. Serial No. 478,633. (No model.)

To all whom it may concern:

Be it known that I, REINHOLD HERMAN, a citizen of the United States, residing at Crafton, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Rail-Joints, of which improvements the following is a specification.

The invention described herein relates to certain improvements in supports for the ends of rails whereby the ends of adjacent rails may be properly supported in such relation to each other as to prevent the passage of electric currents from one rail to the other. And the invention has for its object the provision of suitable chairs or shoes for the rail ends provided with abutments for preventing the rail ends coming into contact with each other, and adapted to be secured in a fixed position relative to each other upon an insulating support.

In the accompanying drawings forming a part of this specification, Figure 1 is a perspective of one of my improved rail chairs or shoes. Fig. 2 is a transverse section of a rail and one of the shoes applied thereto. Fig. 3 is a longitudinal section of a rail joint formed in accordance with my invention. Figs. 4 and 5 are views similar to Figs. 1 and 2, illustrating certain modifications of my improvement.

In the practice of my invention each rail chair or shoe consists of a base plate 1 and a side bearing plate 2 formed integral therewith. This side plate is constructed to fit over the flange of the rail and between the head and flange thereof, thereby affording not only a lateral support for the rail, but also a vertical support for the head on one side of the rail. At one end of the chair or shoe, an abutment 3 is formed integral with the base and side plates and is adapted to prevent a longitudinal movement of the rail in the chair or shoe in one direction. This abutment is made the same height as the rail and the upper portion has the same contour and dimensions as the upper portions of the rail head, so that the abutment forms a continuation of the rail head. At the end opposite that having the abutment, the chair or shoe is provided with a flange or stop plate 4 on its under side adapted to bear against the side of a cross-tie, so as to prevent movement of the chair or shoe across the tie 5.

In forming an insulating joint, two chairs or shoes such as described are secured with their abutment ends adjacent to each other, on a cross-tie 5 of such a width that when the flange or stop-plates 4 bear against the sides of the cross-tie, the abutments 3 will be separated about half an inch more or less, or such a distance apart as will prevent the passage of an electric current from one chair or shoe to the other, the air space between serving as an insulator.

In the construction shown in Figs. 4, and 5, the chair or shoe is provided with a second side plate 6, similar in construction to the plate 2 and adapted to bear against the inner side of the rail. As shown in Figs. 1 and 4, the base plate is provided with suitable holes 7 for the passage of the spikes for securing the chairs or shoes to the cross-ties, and the flanges ar stop-plates 4 are bolted or spiked to the sides of the cross-ties. The shoes or chairs are firmly secured to the ends of the rails by means of bolts 8 passing through the side plates and the webs of the rails.

In laying a line of rails with my improvement applied at points where the rails are to be insulated from each other, the ends of the rails having my improved chair are firmly secured thereby to the cross-tie or other suitable non-conducting support, and provision is made at the opposite ends of the rails for movements of the latter due to expansion and contraction.

I claim herein as my invention—

1. The combination of a cross-tie or support formed of non-conducting material, two chairs or shoes provided with abutments and so secured to the non-conducting support as to prevent the passage of electric currents from one chair to the other, and rails secured to the chairs, substantially as set forth.

2. The combination of a cross tie or support formed of non-conducting material, two chairs or shoes secured in such relation to each other on the support as to prevent the passage of an electric current from one chair to the other and rails having their adjacent ends secured respectively in the chairs or

shoes as against movement into contact with each other or the adjoining chair, substantially as set forth.

3. A chair or shoe for rail joints having in combination a base plate, a side plate, an abutment adapted to form an end bearing for a rail and its upper surface to form a continuation of the rail tread, and a stop plate for preventing a movement of the chair across its support, substantially as set forth.

In testimony whereof I have hereunto set my hand.

REINHOLD HERMAN.

Witnesses:

DARWIN S. WOLCOTT,

W. S. THOMAS.