

No. 708,349.

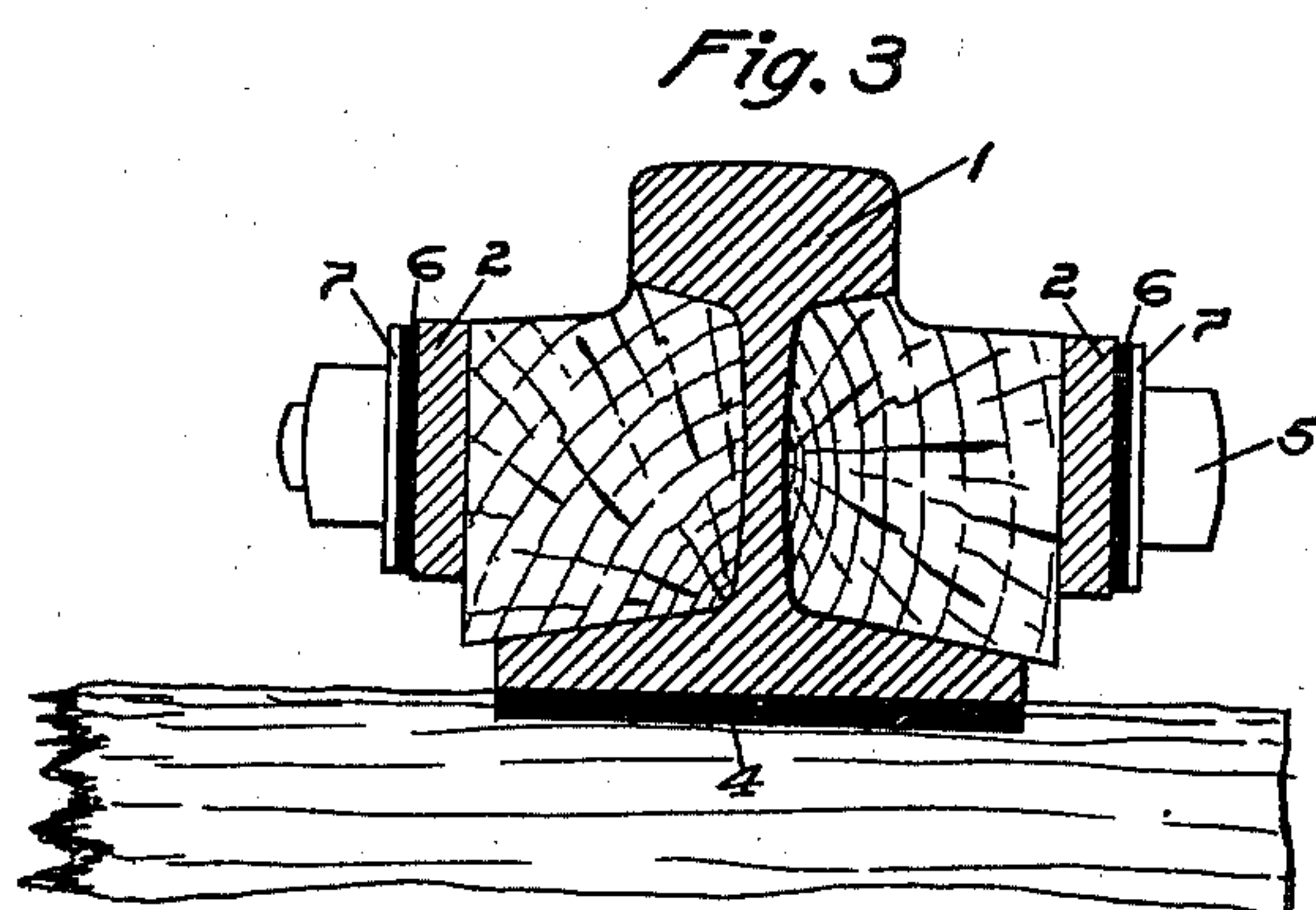
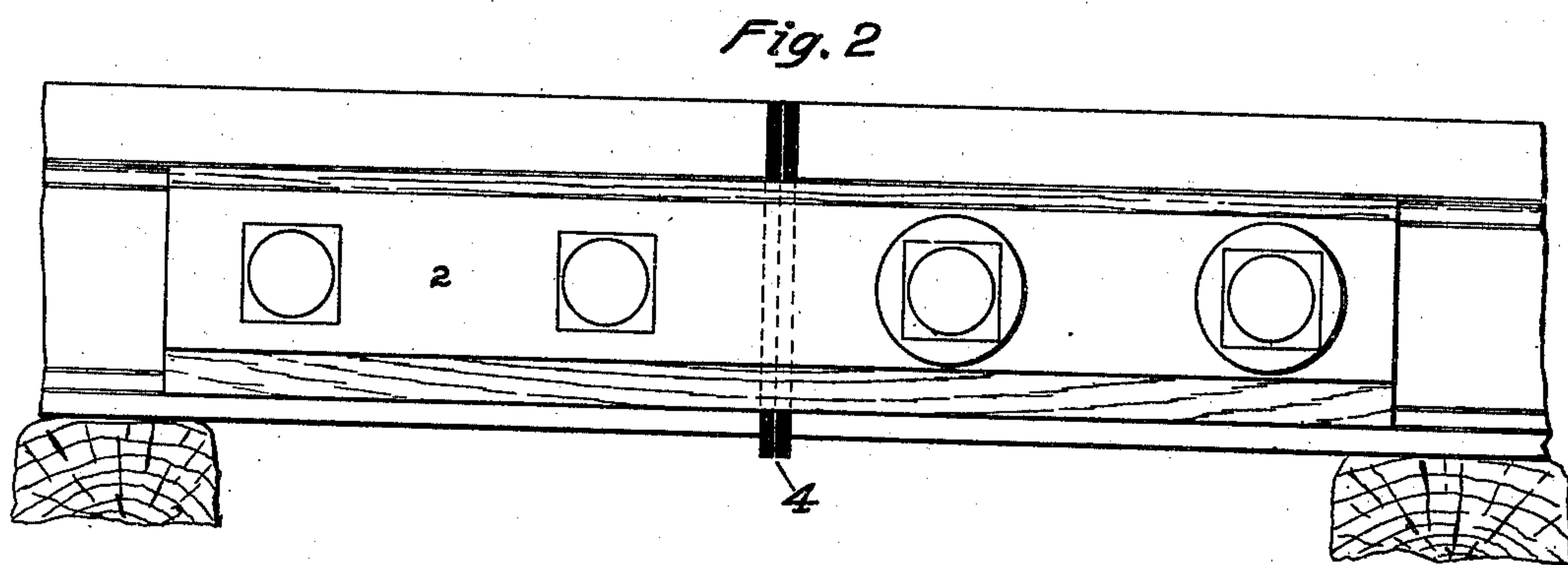
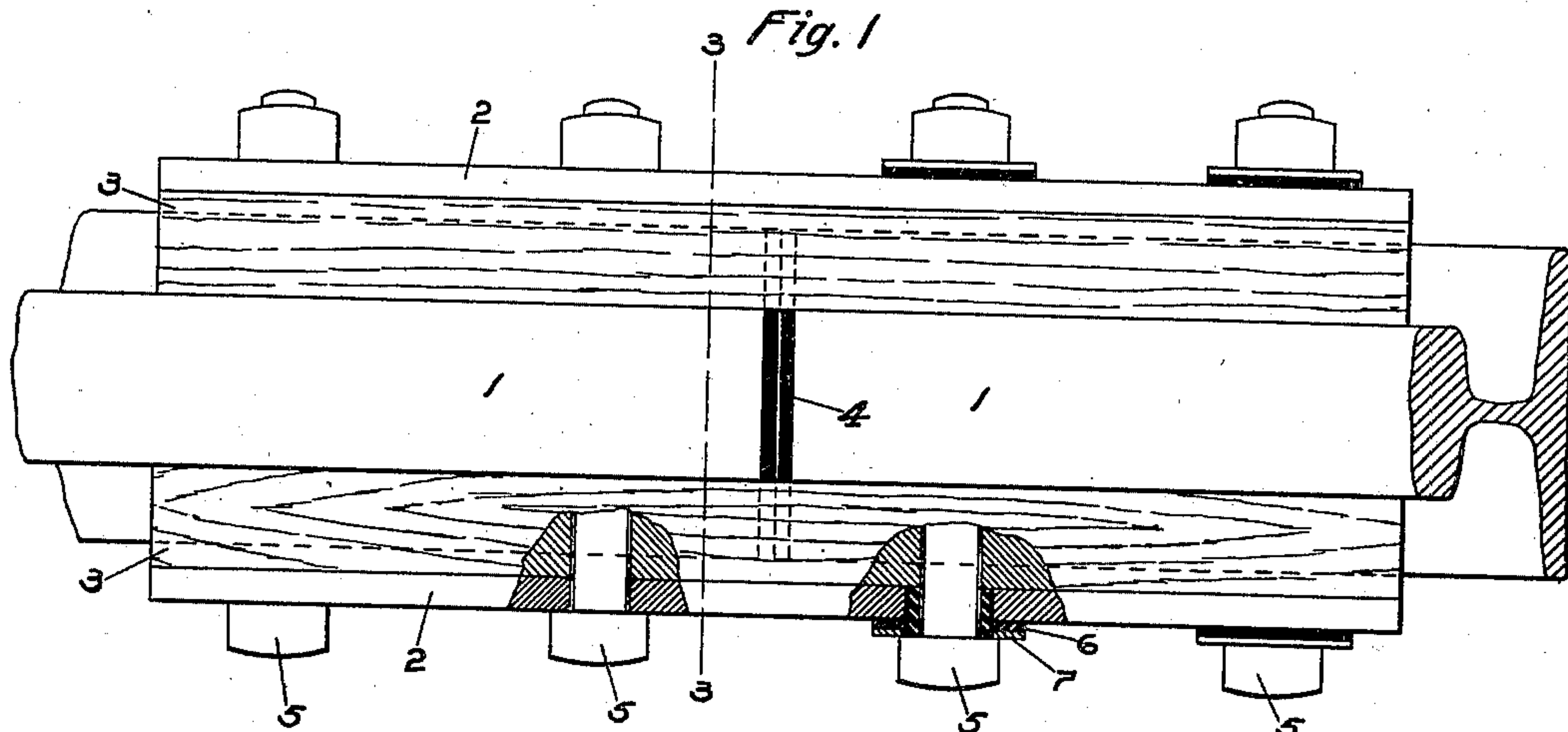
Patented Sept. 2, 1902.

G. L. HALL.
INSULATED RAIL JOINT.

(Application filed Mar. 6, 1902.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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G. L. Hall INVENTOR

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2 Sheets—Sheet 2.

Fig. 4

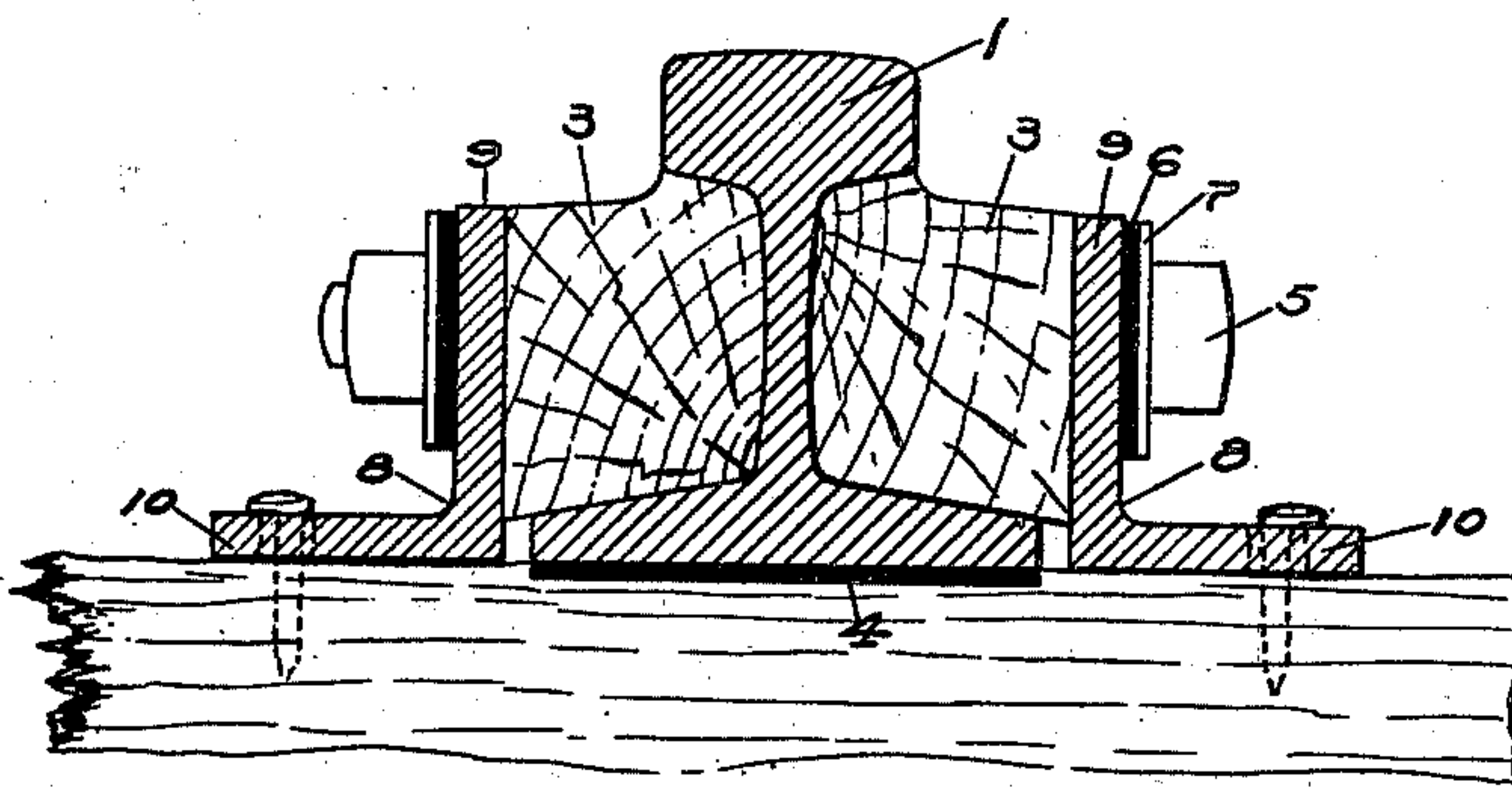


Fig. 5

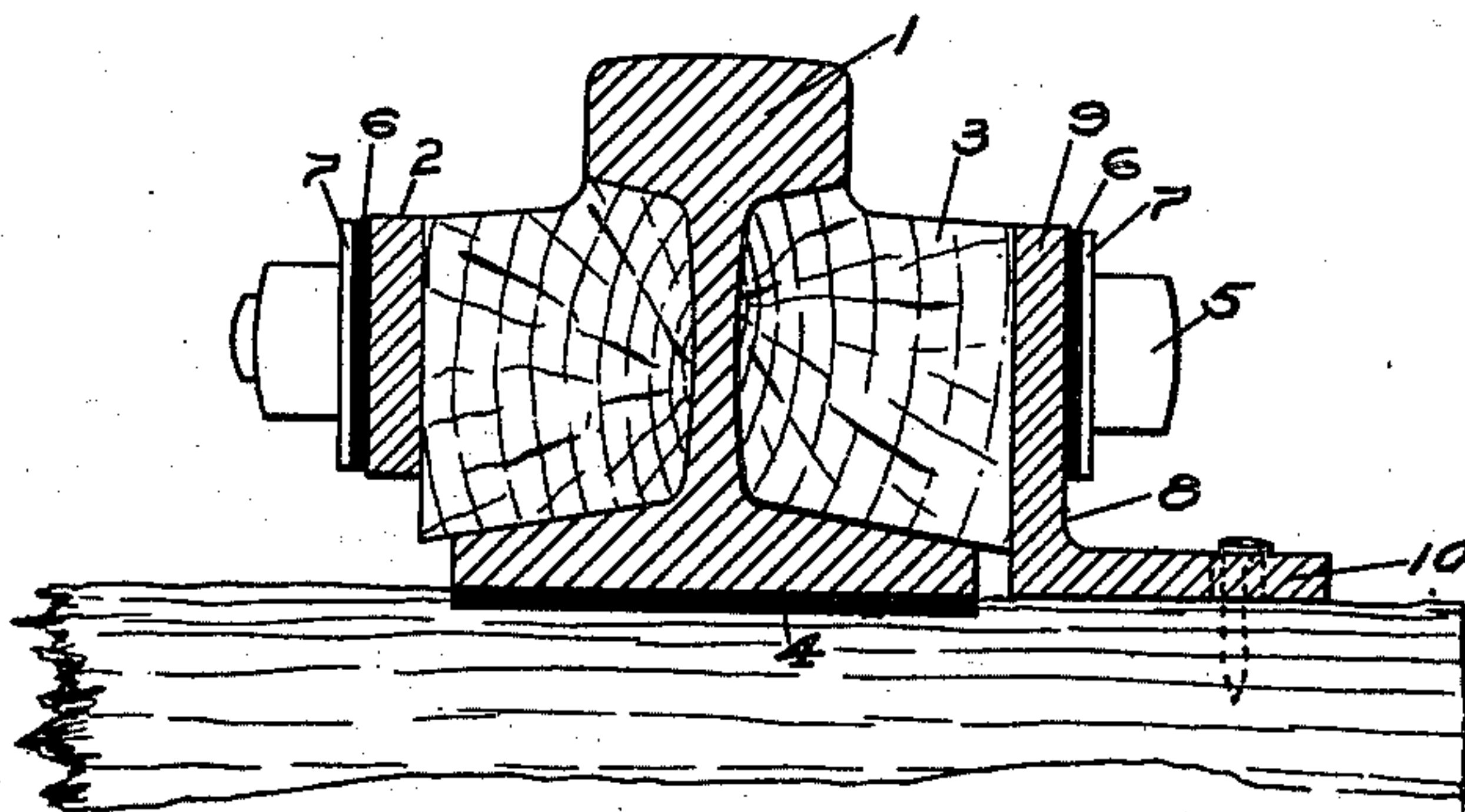
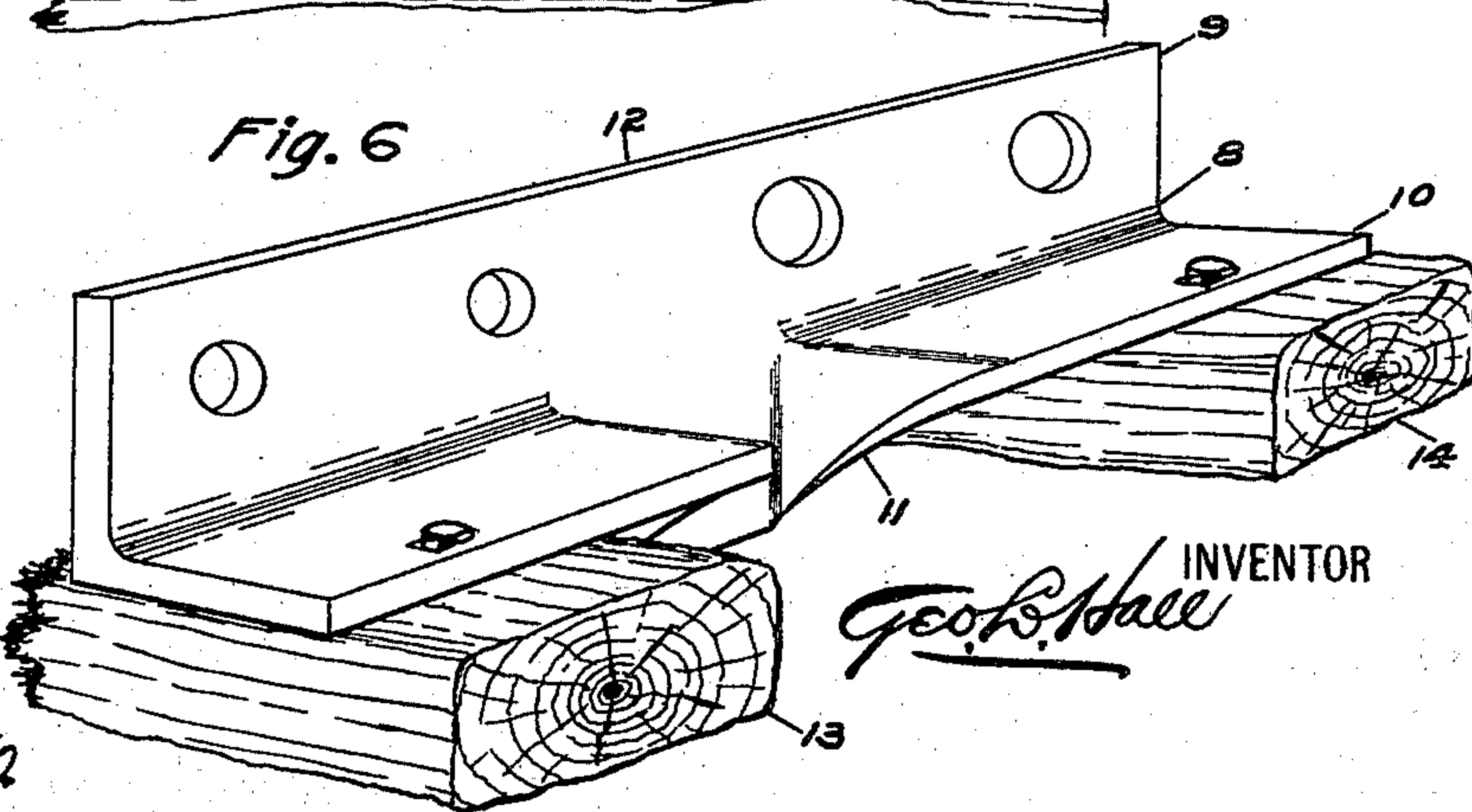


Fig. 6



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UNITED STATES PATENT OFFICE.

GEORGE L. HALL, OF BROOKLYN, NEW YORK.

INSULATED-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 708,349, dated September 2, 1902.

Application filed March 6, 1902. Serial No. 96,894. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. HALL, a citizen of the United States of America, residing in the borough of Brooklyn, city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Insulated-Rail Joints, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to joints between adjacent rails of a railway and to the insulation of one rail from the rail adjacent to it, and its objects are to provide a strong joint and an economical use of insulating material.

To these ends my invention consists of two opposite bolt-plates extending across the joint, two blocks of strengthening and insulating material also extending across the joint and intermediate, the one, of one of the bolt-plates and the rail ends and the other of the other of the bolt-plates and the rail ends, and means of insulating the bolts passing through one of the rail ends from the bolt-plates or the rail ends.

Hereinafter describe a rail-joint embodying the features of my improvements, and then point out the novel features in the claims, having reference to the accompanying drawings, in which similar numerals of reference indicate similar parts throughout the various views, of which—

Figure 1 is a plan view, partly in section. Fig. 2 is a side view. Fig. 3 is a sectional view on line 3 3 of Fig. 1. Figs. 4 and 5 are views similar to Fig. 3, each showing a modification; and Fig. 6 is a perspective view of a modified form of an angle bolt-plate.

1 1 are the ends of two railway-rails to be joined and electrically insulated from each other.

2 2 are metal bands or bolt-plates adapted to extend across the joint, one on one side of the rail ends and the other on the other side of the same.

3 3 are blocks of wood or other strengthening and insulating material extending across the joint and intermediate one of one of said bolt-plates and the rail ends and the other of the other of said bolt-plates and the rail ends.

5 represents bolts or other devices for binding the parts together.

6 represents thimbles or bushings of insu-

lating material adapted to insulate every of the bolts passing through one of the rail ends from the two bolt-plates, and 7 are washers protecting said bushings 6. Of course it will be understood that instead of bushings 6 collars of insulating material might be used intermediate of said bolts and the rail ends.

4 is insulating material inserted between the rail ends; but it may be omitted when an air-space is provided between said ends.

In some cases it may be wise to provide a stronger bolt-plate or bolt-plates than those shown in Figs. 1, 2, and 3. I then employ either two angle-irons or angle bolt-plates, as shown in Fig. 4, or one, as shown in Fig. 5. Said angle-irons 8 comprise a bolt-plate 9 and a spike-plate 10.

A modified form of angle-iron 8 is shown in Fig. 6. In order to give still greater strength to bolt-plate 9 at the point 12 thereof where the rail ends are to be joined, I bend down into the same or nearly the same vertical plane as bolt-plate 9 the part 11 of the spike-plate 10 opposite said part 12 of the bolt-plate.

What I claim, and desire to secure by Letters Patent, is—

1. An insulated-rail joint comprising two opposite bolt-plates extending across the joint, two insulating-blocks extending across the joint one on each side of the rail ends and between them and the corresponding bolt-plate, a plurality of bolts extending through the bolt-plates, insulating-blocks and rail ends, insulating-bushings adapted to insulate every of said bolts passing through one of the rail ends from said bolt-plates and means of maintaining the rail ends from contact with each other.

2. An insulated-rail joint comprising two opposite bolt-plates extending across the joint, one or both provided with an integral spike-plate, two insulating-blocks extending across the joint one on each side of the rail ends and between them and the corresponding bolt-plate, a plurality of bolts extending through the bolt-plates, insulating-blocks and rail ends, insulating-bushings adapted to insulate every of said bolts passing through one of the rail ends from said bolt-plates and means of maintaining the rail ends from contact with each other.

3. An insulated-rail joint comprising two

opposite bolt-plates extending across the joint, one or both provided with an integral spike-plate having the part thereof opposite the part of the bolt-plate at which the rail
5 ends are joined formed so as to be in substantially the same vertical plane with said bolt-plate, two insulating-blocks extending across the joint one on each side of the rail ends and between them and the corresponding bolt-plate, a plurality of bolts extending
10 through the bolt-plates, insulating-blocks,

and rail ends, insulating-bushings adapted to insulate every of said bolts passing through one of the rail ends from said bolt-plates, and means of maintaining the rail ends from contact with each other. 15

In witness whereof I have hereunto set my hand this 5th day of March, 1902.

GEO. L. HALL.

Witnesses:

H. V. N. PHILIP,
J. F. BOUDREAU.