

No. 782,652.

PATENTED FEB. 14, 1905.

G. L. HALL.
INSULATED RAIL JOINT.
APPLICATION FILED JAN. 9, 1904.

2 SHEETS—SHEET 1.

Fig. 1

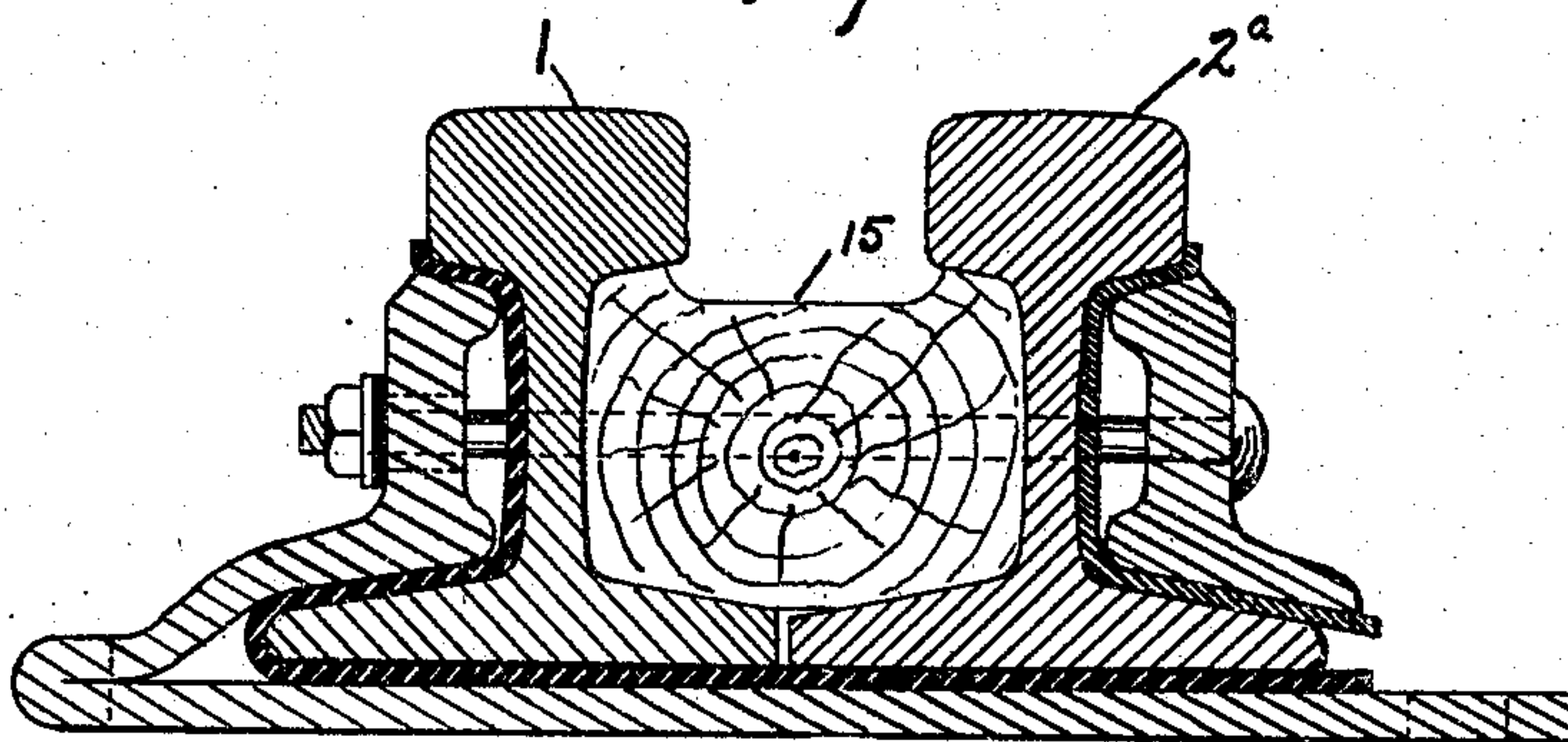


Fig. 2

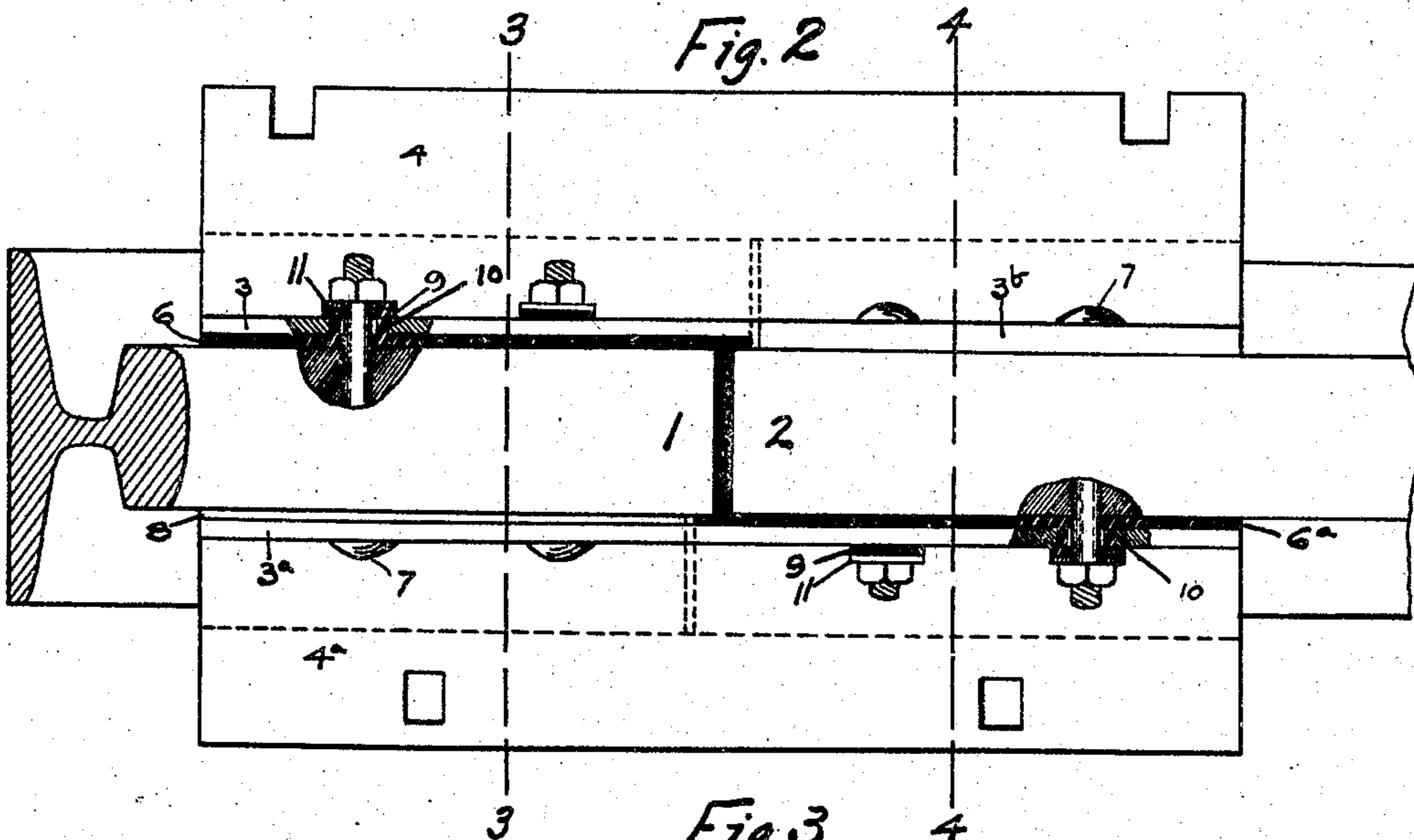
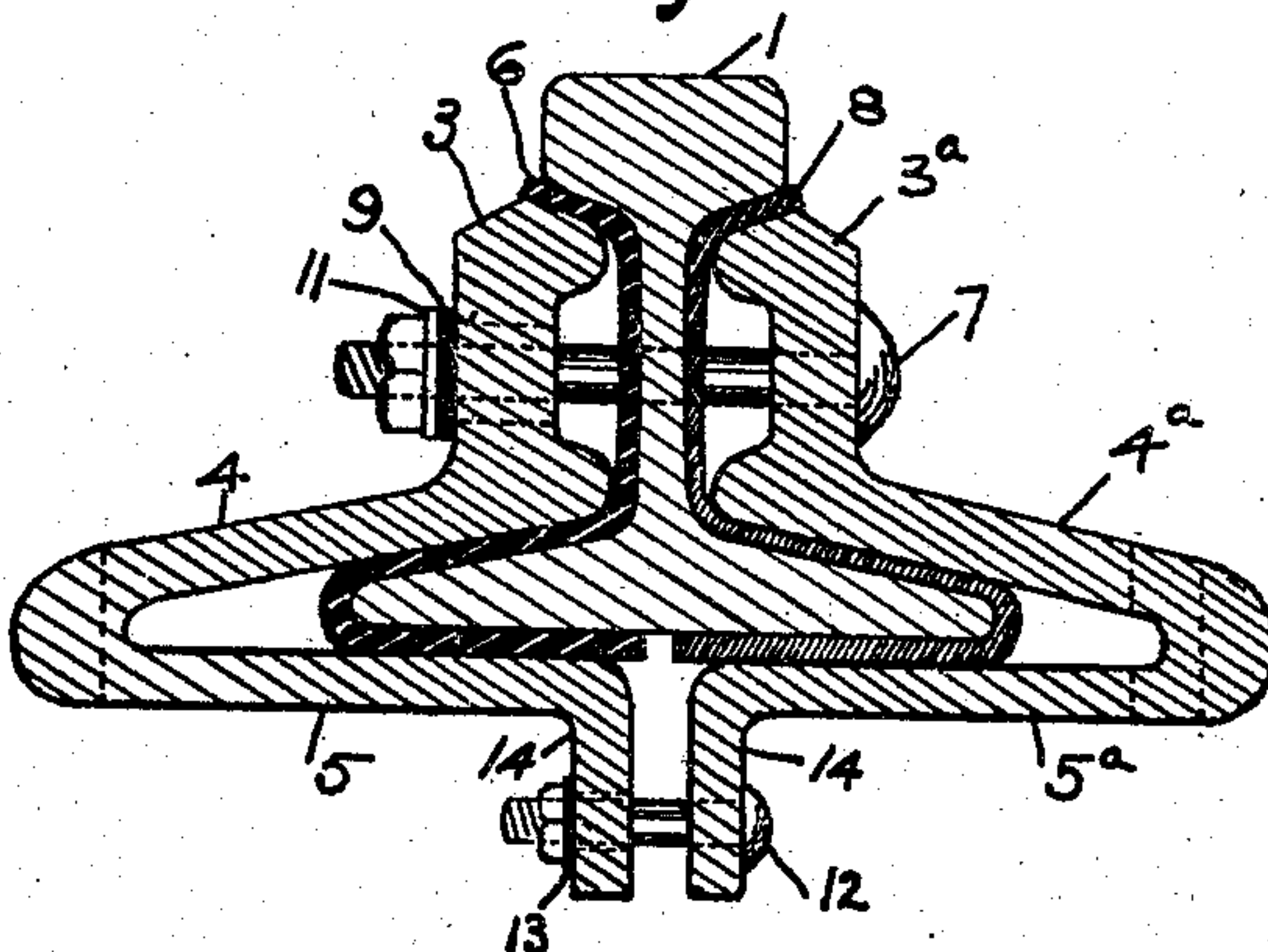


Fig. 3



WITNESSES:

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2 SHEETS—SHEET 2.

Fig. 4.

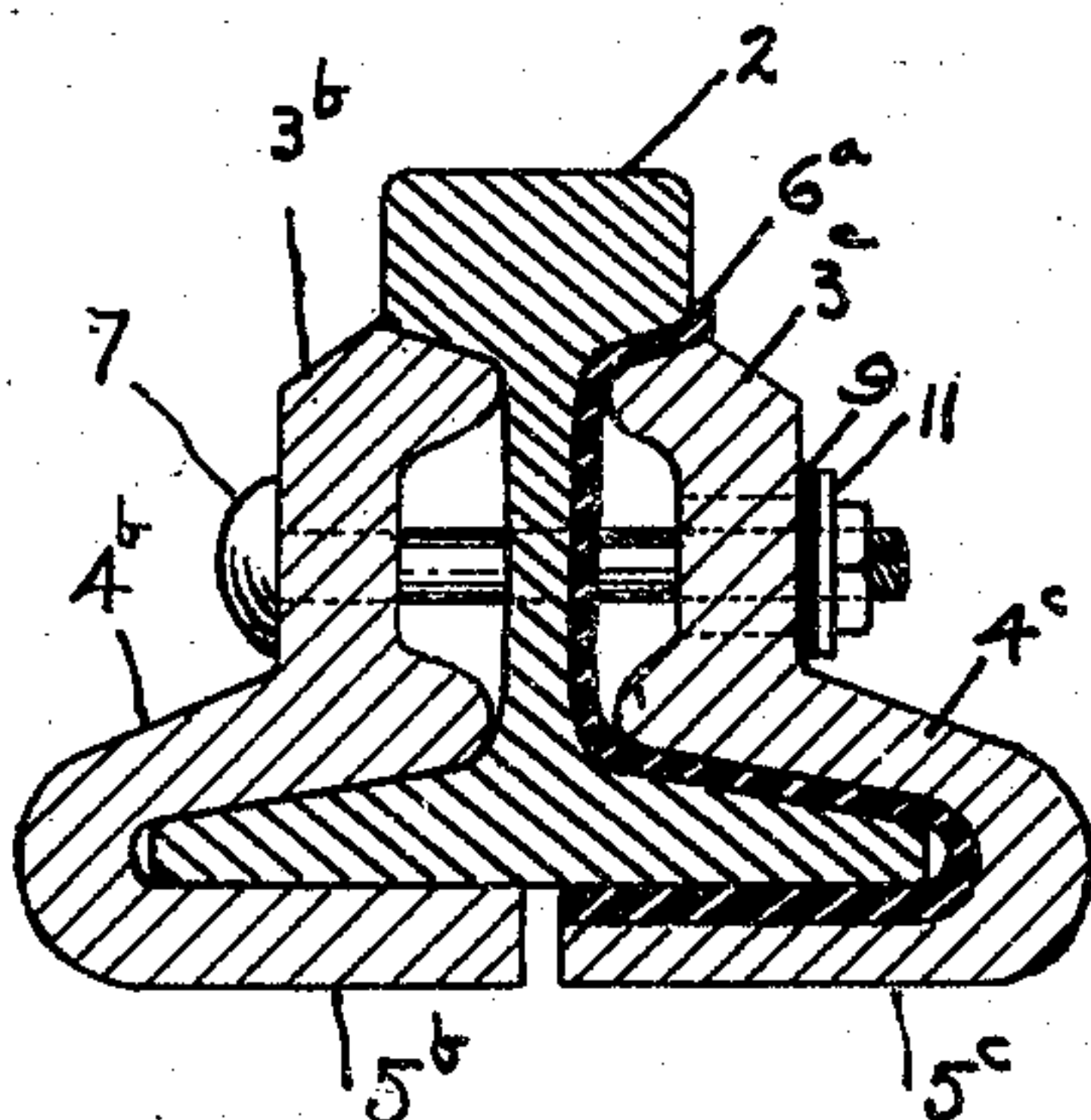
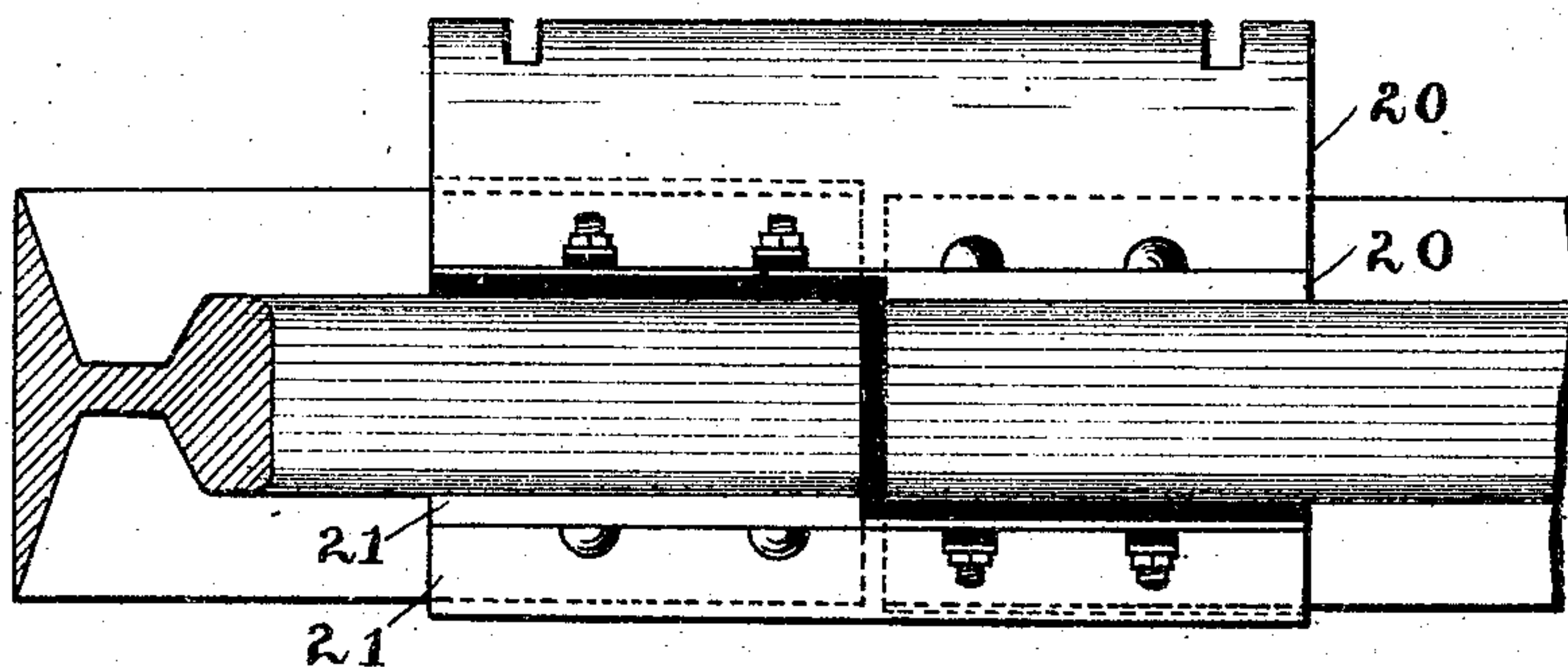


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE L. HALL, OF NEW YORK, N. Y., ASSIGNOR TO CONTINUOUS RAIL JOINT CO. OF AMERICA, OF NEWARK, NEW JERSEY, ORGANIZED AND EXISTING UNDER THE LAWS OF NEW JERSEY.

INSULATED RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 782,652, dated February 14, 1905.

Application filed January 9, 1904. Serial No. 188,306.

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 object is to provide an all-metal joint having base-support in which the amount of insulating material may be greatly reduced.

To this end my invention consists of means whereby each of the two rail ends may be insulated from only substantially half of the metal parts of the joint.

I hereinafter describe a rail-joint embodying my invention 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 cross-section showing a modification. Fig. 2 is a plan view. Fig. 3 is a section on the line 3 3 of Fig. 2. Fig. 4 is a section on the line 4 4 of Fig. 2. Fig. 5 is a plan view of a modification.

1 and 2 are rail ends to be joined and electrically insulated.

Referring to Fig. 3, 3, 4, and 5 are members of a shoe-angle on one side of the joint, and 3^a, 4^a, and 5^a are members of a shoe-angle on the other side of the joint. Referring to Fig. 4, 3^b, 4^b, and 5^b are members of the other end of one of the shoe-angles shown in Fig. 3 and 3^c, 4^c, and 5^c are members of the other end of the other shoe-angle shown in Fig. 3.

6 is insulating material between rail end 1 and one of the shoe-angles, and 6^a insulating material between rail end 2 and the other of the shoe-angles.

8 is a filling-piece or supporting-plate to compensate for the insulating material 6^a and other method of accomplishing the same re-

sult being shown in connection with the other rail end 2 by thickening the parts of the other shoe-angle, as shown at 3^b, 4^b, and 5^b.

7 represents bolts for securing the parts together, those passing through the rail end 1 being insulated from the shoe-angle from which said rail end is insulated, as above described, by insulating washers and bushings 9 and 10, respectively, and those passing through rail end 2 being insulated from the shoe-angle from which said rail end is insulated, as above described, by insulating washers and bushings 9 and 10, respectively.

11 represents washers for protecting the insulating-washers.

In Fig. 3 I have shown a means of further strengthening the joint by means of lugs 14 on the shoe-angles and bolts 12, which, it will be understood, should be insulated from one of said lugs by insulating washer and bushing 13.

In Fig. 5 only one shoe-angle 20 is shown, the joint having opposed to the bolt-plate of said shoe-angle a separate bolt-plate or angle-iron 21.

It will be understood that instead of using two shoe-angles a single shoe-angle and opposite angle-iron or metal band may be used, as shown in Fig. 1, and that, further, the invention may be adapted to conditions where a guard-rail 2^a is used, in which case a separating and filling block 15 should also be used.

Of course it will be understood that insulating end posts should be used, as shown in Fig. 2, when the rail ends are not separated by an air-space.

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

1. In a rail-joint, the supporting-plate comprising a metallic piece longitudinally bent outward at the top and bottom and adapted to lie between the top of the connecting-plate and the bottom of the head of the rail and between the connecting-plate and the base-flange of the rail, substantially as set forth.

2. In a rail-joint, the combination with the rails and connecting-plates, of electrically-

non-conductive insulation arranged in a zigzag course, in plan, between the rails, and connecting-plates, and supplemental metallic plates extending in alinement with the parts 5 or portions of insulation lying between the rails and connecting-plates, substantially as set forth.

3. In a rail-joint, the combination with the rails and connecting-plates, of insulation electrically insulating one rail from the next in alinement, and supplemental supporting-plates arranged in alinement with the insulation between the bearings of the rail with the said connecting-plates to take the weight of 15 the passing train from the insulation, said supplemental plates being interposed between the rail and said connecting-plates.

4. In a rail-joint, the supporting-plate for relieving electrically-non-conductive insulation from the weight of a passing train, comprising a metallic plate having a longitudinal, lateral bend at its upper end and at its lower

end having a flaring bend to inclose the base-flange of the rail, substantially as set forth.

5. In a rail-joint, the combination with rails 25 and connecting-plates having bearings opposing the under side of the head of the rail and bearings opposite the top and bottom of the base-flange of the rail, of zigzag electrically-non-conductive insulation interposed between 30 the said opposing bearings of the rail and connecting-plates, and metallic supporting-plates, one inserted between one connecting-plate and one rail and the other arranged between the other connecting-plate and the other rail, said 35 supporting-plates each having a lateral longitudinal bend at the top and a flaring double bend at the bottom, substantially as set forth.

In witness whereof I have hereunto set my hand this 7th day of January, 1904.

GEO. L. HALL.

In presence of—

ALOYSIUS E. TENHAGEN,
J. F. BOUDREAU.