

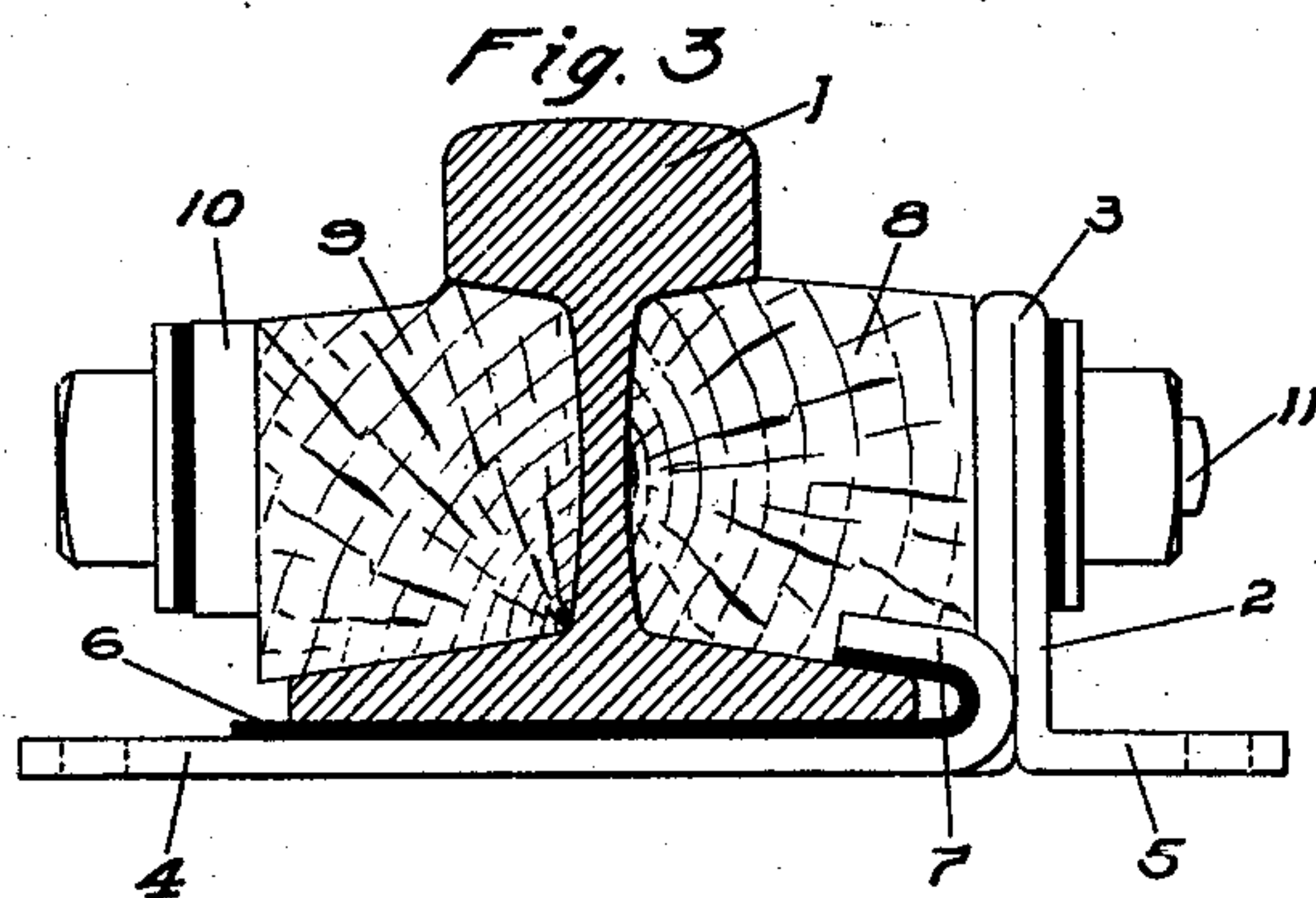
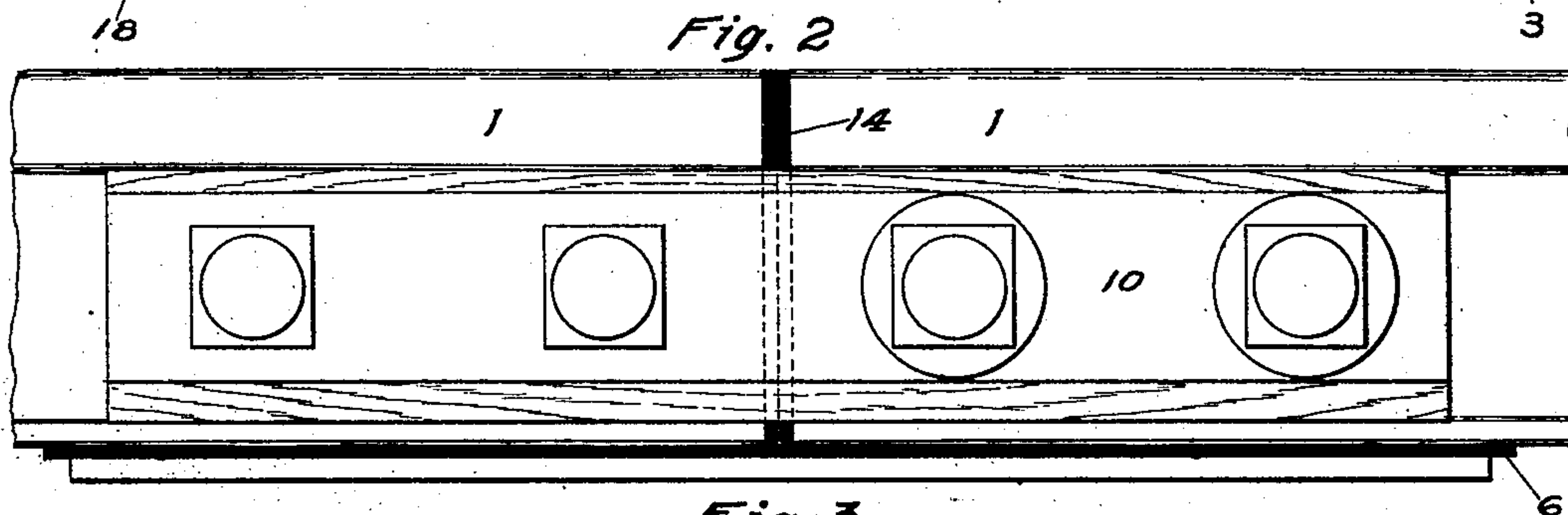
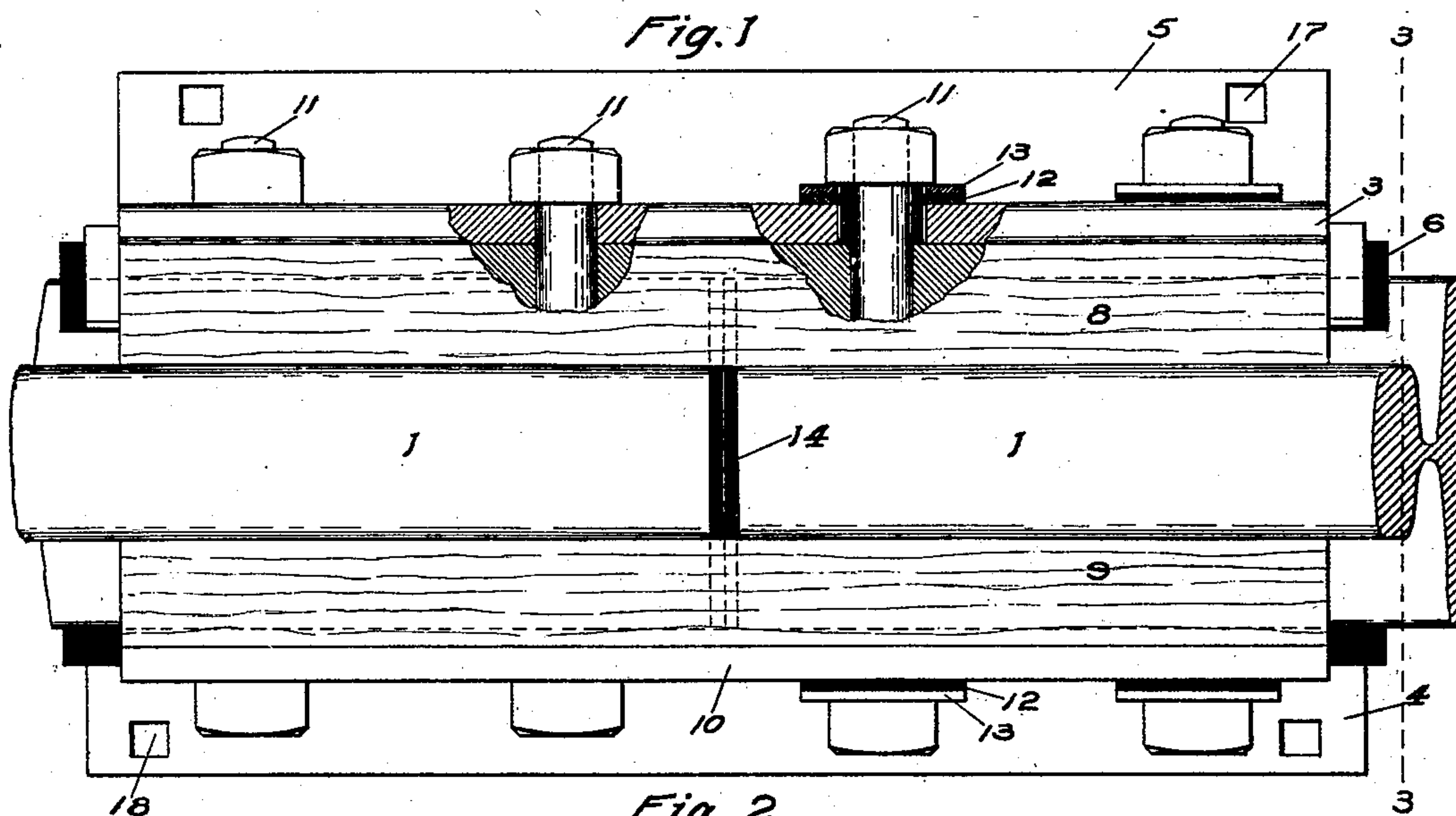
No. 705,345.

Patented July 22, 1902.

G. L. HALL.
RAIL JOINT.

(Application filed Feb. 14, 1902.)

(No Model.)



WITNESSES:

S. H. Dailey
H. G. A. Philip

Fig. 4 *Geo. L. Hall* INVENTOR



UNITED STATES PATENT OFFICE.

GEORGE L. HALL, OF BROOKLYN, NEW YORK.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 705,345, dated July 22, 1902.

Application filed February 14, 1902. Serial No. 94,001. (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 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 and means of applying insulating material.

To these ends my invention consists, broadly, of a rail-chair having its bolt-plate on one side of the rail ends and extending across the joint, a metal band on the other side of the rail ends, also extending across the joint, two blocks of strengthening and insulating material, one on either side of the rail ends, also extending across the joint and intermediate the one of the rail ends and the bolt-plate and the other of the rail ends and the band, means of locking the parts together so as to insulate the rail ends from each other, and certain details of construction.

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 plan view, partly in section. Fig. 2 is a side view. Fig. 3 is an end view, partly in section, on line 3 3 of Fig. 1; and Fig. 4 is a partial view, also on line 3 3 of Fig. 1, showing a modification.

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

2 is a rail-chair, the one shown being described in application for Letters Patent filed by me February 12, 1902, Serial No. 93,677; but of course I do not limit myself to any particular rail-chair. The chair shown is provided with an upright part or bolt-plate 3, a bridge or supporting-plate 4, and a spiking-plate 5.

6 represents insulating material between bridge 4 and rail ends 1 and is held in place

by lugs 7, pinching tongues or laps of said insulating material upon rail ends 1, as shown in Fig. 3; but I do not limit myself to this method of holding said insulating material in place.

Between bolt-plate 3 and rail ends 1 and extending across the joint is a block of wood or other strengthening and insulating material 8. On the other side of the rail and next to it is another block of wood or other strengthening and insulating material 9, also extending across the joint.

10 is a metal band opposite said bolt-plate 3 and outside said block 9 and also extending across the joint. Said metal band being separate from the chair, insulating material 6 may be renewed easily.

11 represents bolts passing through bolt-plate 3, block 8, rail ends 1, block 9, and band 10 and adapted to hold the parts in proper relation with each other.

12 represents insulating thimbles or bushings adapted to insulate in the well-known manner all of bolts 11 passing through one of rail ends 1 from both the bolt-plate 3 of rail-chair 2 and the band 10.

13 represents washers for the protection of said bushings 12.

14 represents insulating material between the rail ends; but this is unnecessary when the said ends are maintained separate from each other by air-space.

In Fig. 4 another means of holding insulating material 6 upon bridge-plate 4 is shown and is more fully described in application for Letters Patent filed by me February 10, 1902, Serial No. 93,276. Said insulating material is provided with a tongue 15, adapted to mesh with or be inserted in mouth or recess 16 in said plate 4. By thus holding said insulating material in place upon the bridge-plate by means independent of the other parts of the joint an easy method of renewing said insulating material is provided; but I do not limit myself to the particular means described.

Of course it will be understood that plate 5 may be spiked to the ties through holes 17, and, if desirable, plate 4 may also be similarly spiked through holes 18.

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

1. An insulated rail-joint, comprising a rail-

chair having a bridge-plate and a bolt-plate, insulating material between the rail ends and said bridge-plate, a metal band separate from said chair and opposing said bolt-plate and extending across the joint, two insulating-blocks one between said bolt-plate and the rail ends and the other between said band and the rail ends and both extending across the joint, a plurality of bolts extending through the bolt-plate, insulating-blocks, rail ends, and band, insulating-bushings adapted to insulate every of said bolts passing through one of the rail ends from both said bolt-plate and said band, and means for maintaining the rail ends from contact with each other.

2. An insulated rail-joint comprising a rail-chair having a spike-plate for spiking said chair to the ties, a bridge-plate and a bolt-plate, insulating material between the rail ends and said bridge-plate, a metal band separate from said chair and opposing said bolt-plate and extending across the joint, two insulating-blocks one between said bolt-plate and the rail ends and the other between said band and the rail end and both extending across the joint, a plurality of bolts extending through the bolt-plate, insulating-blocks, rail ends, and band, insulating-bushings adapted to insulate every of said bolts passing through one of the rail ends from both said bolt-plate and said band, and means for maintaining the rail ends from contact with each other.

3. An insulated rail-joint comprising a rail-chair having a bridge-plate and a bolt-plate, insulating material between the rail ends and said bridge-plate, means for holding said insulating material in proper position on said bridge-plate independent of the other parts of the joint, a metal band separate from said chair and opposing said bolt-plate and extending across the joint, two insulating-blocks one between said bolt-plate and the rail ends and the other between said band and the rail ends and both extending across the joint, a plurality of bolts extending through the bolt-plate, insulating-blocks, rail ends, and band, insulating-bushings adapted to insulate every of said bolts passing through one of the rail ends from both said bolt-plate and said band, and means for maintaining the rail ends from contact with each other.

4. An insulated rail-joint comprising a rail-chair having a spike-plate for spiking said chair to the ties, a bridge-plate and a bolt-plate, insulating material between the rail ends and said bridge-plate, means for holding said insulating material in proper position on said bridge-plate independent of the

other parts of the joint, a metal band separate from said chair and opposing said bolt-plate and extending across the joint, two insulating-blocks one between said bolt-plate and the rail ends and the other between said band and the rail ends and both extending across the joint, a plurality of bolts extending through the bolt-plate, insulating-blocks, rail ends, and band, insulating-bushings adapted to insulate every of said bolts passing through one of the rail ends from both said bolt-plate and said band, and means for maintaining the rail ends from contact with each other.

5. An insulated rail-joint comprising a rail-chair having a bridge-plate and a bolt-plate, insulating material between the rail ends and said bridge-plate, means for holding said insulating material in proper position consisting of a tongue of the same adapted to be inserted in a mouth in the bridge-plate, a metal band separate from said chair and opposing said bolt-plate and extending across the joint, two insulating-blocks one between said bolt-plate and rail ends and the other between said band and the rail ends, and both extending across the joint, a plurality of bolts extending through the bolt-plate, insulating-blocks, rail ends, and band, insulated bushings adapted to insulate every of said bolts passing through one of the rail ends from both said bolt-plate and said band, and means for maintaining the rail ends from contact with each other.

6. An insulated rail-joint comprising a rail-chair having a spike-plate for spiking said chair to the ties, a bridge-plate and a bolt-plate, insulating material between the rail ends and said bridge-plate, means for holding said insulating material in proper position consisting of a tongue of the same adapted to be inserted in a mouth in the bridge-plate, a metal band separate from said chair and opposing said bolt-plate and extending across the joint, two insulating-blocks, one between said bolt-plate and the rail ends and the other between said band and the rail ends, and both extending across the joint, a plurality of bolts extending through the bolt-plate, insulating-blocks, rail ends, and band, insulating-bushings adapted to insulate every of said bolts passing through one of the rail ends from both said bolt-plate and said band, and means for maintaining the rail ends from contact with each other.

In witness whereof I have hereunto set my hand this 13th day of February, 1902.

GEO. L. HALL.

Witnesses:

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