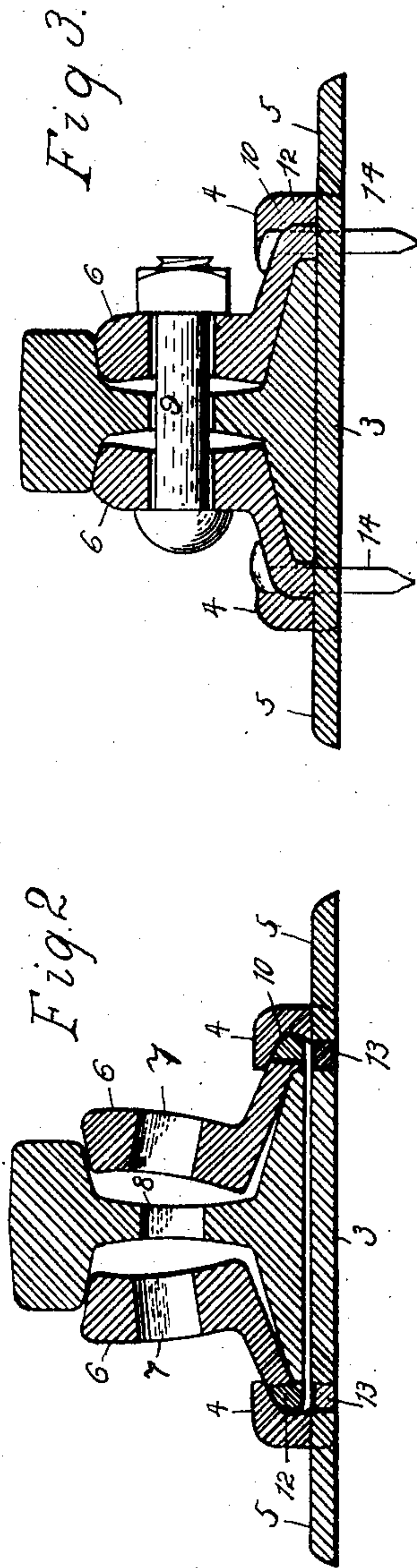
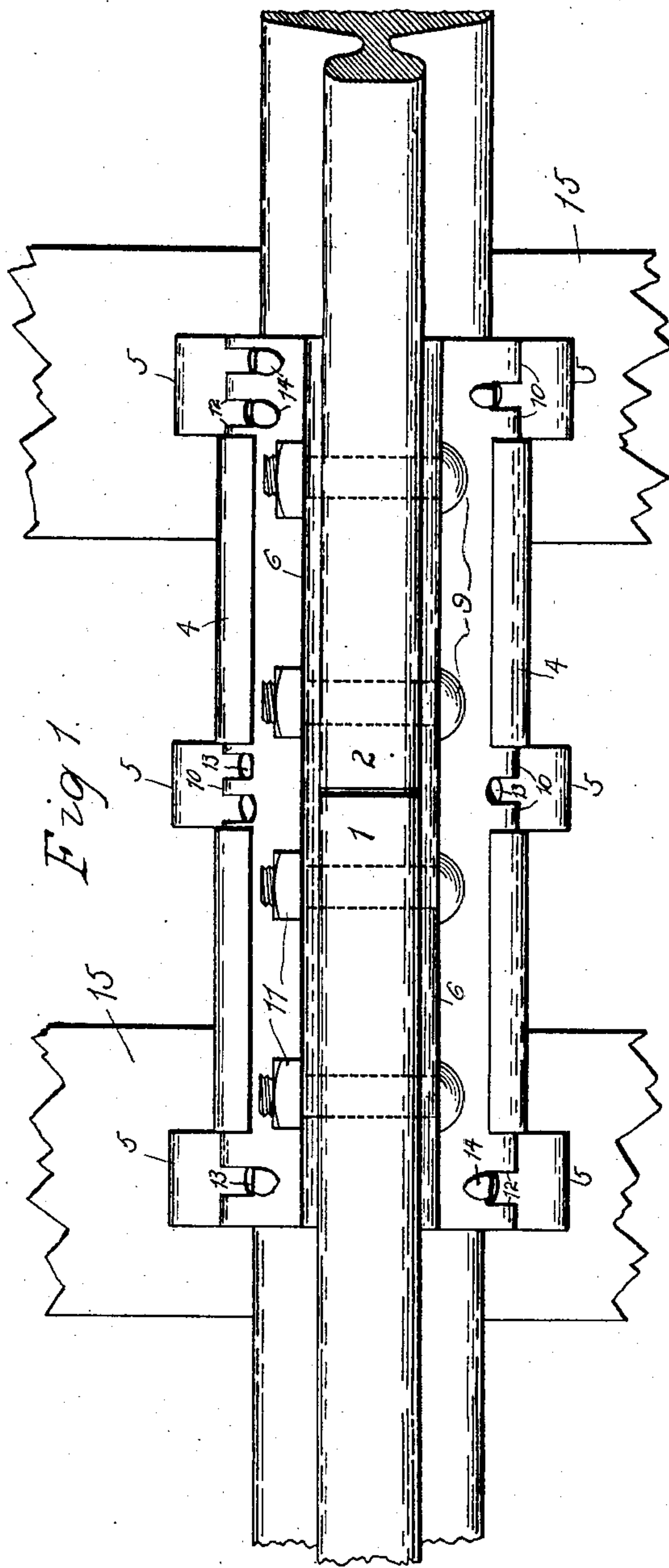


No. 774,741.

PATENTED NOV. 15, 1904.

T. DITMARS.  
RAIL JOINT CHAIR.  
APPLICATION FILED FEB. 8, 1904.

NO MODEL.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

THEODORE DITMARS, OF KANSAS CITY, MISSOURI.

## RAIL-JOINT CHAIR.

SPECIFICATION forming part of Letters Patent No. 774,741, dated November 15, 1904.

Application filed February 8, 1904. Serial No. 192,671. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE DITMARS, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Rail-Joint Chairs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My present invention relates to rail-joints, and more particularly to rail-joint chairs.

The objects of my present invention are, first, to provide a rail-joint which will be perfectly rigid and smooth and which will obviate the tendency of the rail ends to work loose at their joints, creating an up-and-down movement of the same, which makes the travel on the road very rough and decreases the frictional contact, and consequently the power, of the locomotive; second, to provide a rail-joint wherein the strain on the bolts of the joint is transferred from the lateral to the tensile strength of the bolt, thereby obviating the tendency of the bolt to wear away and make the joint loose; third, to provide means for securing the joint to the ties, whereby the tendency of the rails and angle-bars to move longitudinally along the chair-plate is obviated; fourth, to provide a rail-joint which will embody the above advantages and at the same time be simple and economical in construction.

A further object of my invention is to provide improved details of structure, clearly shown in the accompanying drawings, forming part of this specification, in which like reference-numerals refer to like parts, and in which—

Figure 1 is a top plan view of my improved rail-joint chair, connecting the ends of a pair of rails. Fig. 2 is a cross-section of the same, showing the parts loosened up. Fig. 3 is a cross-section of the same, showing the parts securely bolted together.

1 and 2 are the ends of a pair of rails seated

in a chair-plate 3, said chair-plate 3 having curved flanges 4 at either side thereof, adapted to encircle the base of the rail but spread apart a sufficient distance to enable the rail-base to be readily inserted between the same. 55

5 represents flanges on chair-plate 3, which are preferably formed by slitting plate 3 at the ends and middle or at any desired position along the plate and spreading said slitted portions outwardly until they are level with the bottom of the plate. 60

6 represents angle-bars, the lower ends of which are curved, as shown, and project slightly beyond the edge of the rail-base and engage the inner sides of the curved flanges 4. Bars 6 are provided with bolt-holes 7, adapted to register with bolt-holes 8 in the web of the rails 1 2 when said bars are clamped closely to the sides of the rail. 65

9 represents bolts passing through bolt-holes 7 and 8 and adapted to secure angle-bars 6 closely to the web of the rails. 70

Angle-bars 6 are preferably provided at their lower ends with curved bearing-surfaces 10, adapted to bear against the inner surfaces of flanges 4 to raise the chair-plate 3. The inner sides of the angle-bars 6 are made to conform to the shape of the rail, fitting snugly thereagainst when bolts 9 have been secured by nuts 11. Angle-bars 6 are provided with notches 12, adapted to register with perforations 13 in the chair-plate 3. 80

14 represents spikes driven through notches 12 and perforations 13 and into ties 15. By securing the joint in this manner the rails are not only firmly secured to the ties, but the tendency of the rails and angle-bars to work along the chair-plate is obviated, as the spike passes through both the angle-bar and the chair-plate, so that any movement of one part must necessarily be the movement of both. 85 90

There may be any convenient number of flanges 5 on plate 3 and as many notches 12 and perforations 13 as may be required to receive the spikes necessary to properly secure the joint to the ties. 95

In assembling the parts of my improved rail-chair joint the two adjacent ends of the rails are seated in the chair-plate 3, which is positioned on ties 15, and the angle-bars 6 are 100



then applied to the sides of the rail, the lower curved ends 10 being inserted in the curved flanges 4. Angle-bars 6 are then forced against the sides of the rail by any suitable means, preferably a jack, which operation will elevate the lower ends of the angle-bars and force chair-plate 3 upwardly to fit snugly and tightly against the base of the rail. Spikes 14 are then driven through the notches in angle-bars 6 and perforations in chair-plate 3 and into ties 15, rigidly securing said angle-bar to the plate and the plate to the tie. In this position the parts form a rigid joint for the rails, rendering them incapable of vertical, lateral, or longitudinal movement. At the same time the chair-plate 3 provides a larger surface for the rails, thereby lessening the destructive action of the rail-bases and the ties.

I do not wish to be understood as limiting myself to the exact details of structure herein shown and described, inasmuch as the same may be varied without departing from the spirit of my invention.

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

1. A rail-chair joint comprising a chair-plate, angle-bars adapted to force said chair-plate upwardly to fit snugly against the base of the rail, said chair-plate having perforations and said angle-bars having notches therein for receiving spikes by which said parts are secured to the ties.

2. A rail-chair joint comprising a chair-plate having upwardly and inwardly turned flanges on either side thereof, angle-bars carried by the web of the rail and having their lower ends adapted to engage the under sides of said flanges, said chair-plate having perforations and said angle-bars having notches therein for receiving spikes by which said parts are secured to the ties.

3. A rail-chair joint comprising a chair-plate having upwardly and inwardly turned flanges on each side thereof, angle-bars carried by the web of the rail and having their lower ends adapted to engage the under side of said flanges, ears on said plate extending horizontally therewith, said chair-plate having perforations and said angle-bars having notches therein adjacent to the edge of the base of the rail for receiving spikes by which said parts are secured to the ties.

4. A rail-chair joint comprising a chair-plate having upwardly and inwardly turned flanges on each side thereof, angle-bars carried by the web of the rail and having their lower ends adapted to engage the under side of said flanges, cut-out portions on said flanges adapted to be bent outwardly to form ears horizontal with said chair-plate, said chair-plate having perforations and said angle-bars having notches therein, for receiving spikes by which said parts are secured to the ties.

5. In a rail-joint chair the combination of a perforated chair-plate adapted to receive the ends of a pair of rails, upwardly and inwardly turned flanges on each side of said plate, cut-out portions on said flanges adapted to be bent outwardly to form ears horizontal with said chair-plate, angle-bars secured to the web of the rails and having their lower ends fitting within the groove formed by the flanges on said plate, said angle-bars having notches registering with the perforations in said plate, and spikes fitting within said notches and said perforations.

In testimony whereof I affix my signature in presence of two witnesses.

THEODORE DITMARS.

Witnesses:

S. C. McPHERRIN,  
BENJ. S. BROWN.