

(No Model.)

2 Sheets—Sheet 1.

E. P. CALDWELL.
RAIL JOINT.

No. 519,904.

Patented May 15, 1894.

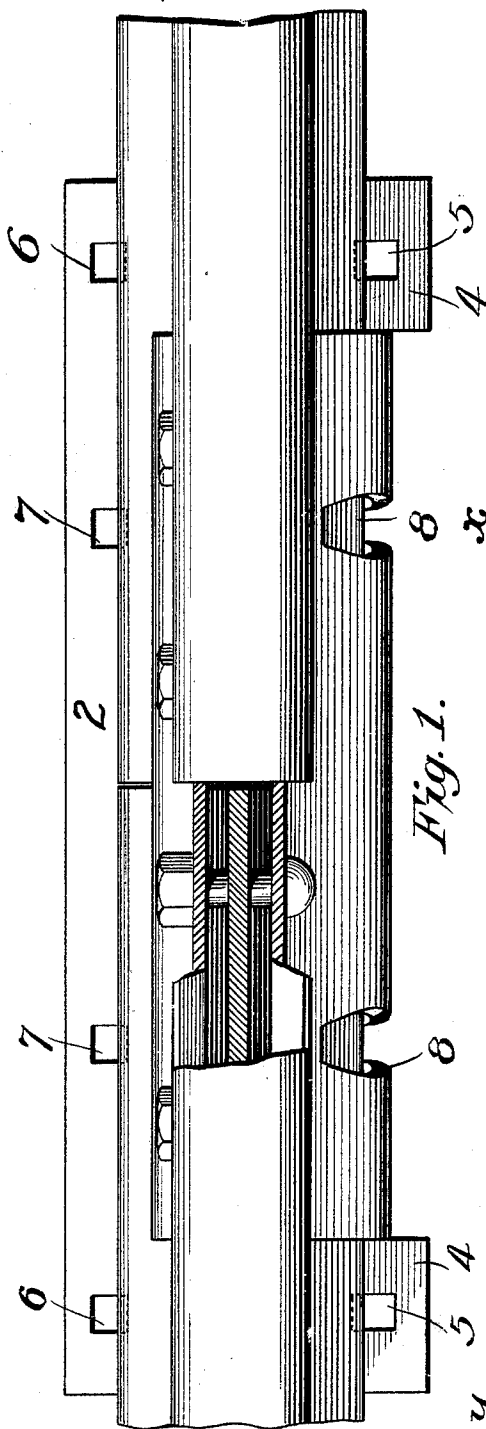


Fig. 1.

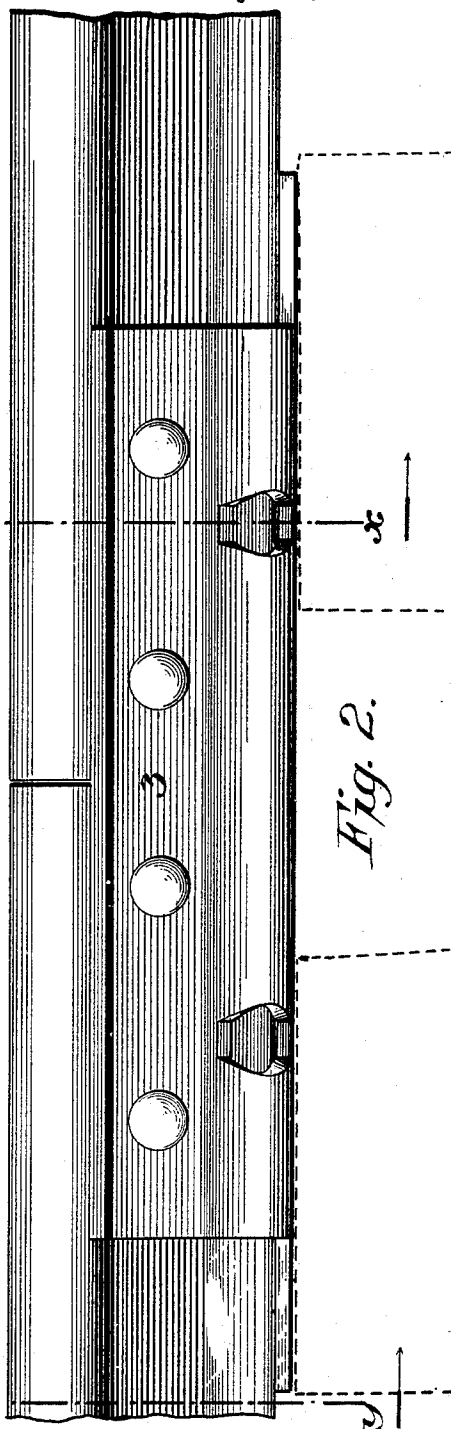


Fig. 2.

Witnesses,
C. E. Van Doren,
J. D. Jones

Inventor
Edward P. Caldwell
By Paul & Morrow
his Attorneys.

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2 Sheets—Sheet 2.

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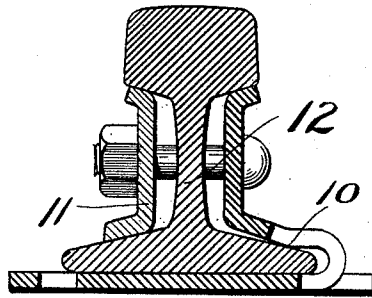


Fig. 3.

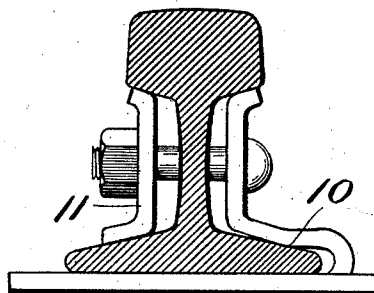


Fig. 4.

Witnesses,
C. C. Van Dorn
J. H. Lyon

Inventor
Edward P. Caldwell

By Paul H. Murray
his Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD P. CALDWELL, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO THE
HEATH RAIL JOINT COMPANY, OF SAME PLACE.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 519,904, dated May 15, 1894.

Application filed January 21, 1893. Serial No. 459,042. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. CALDWELL, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain
5 new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to rail joints or ties, and the object of the invention is to provide
10 a combined rail or tie-plate, adapted for convenient fastening to the ties; and having an integral angle-iron and brace to be secured to the rails, in combination with a separable angle-bar engaging the opposite side thereof.

To this end my invention consists in general in the constructions and combinations,
15 all as hereinafter described and particularly pointed out in the claim, and will be more readily understood by reference to the accompanying drawings forming a part of this
20 specification, in which—

Figure 1 is a plan view of a rail joint embodying my invention, a portion thereof being shown in section. Fig. 2 is a side view of my rail-joint. Fig. 3 is a cross section on the line $x-x$ of Fig. 2. Fig. 4 is a cross section on the line $y-y$ of Fig. 2 showing the end of the rail-joint.

As shown in the drawings, 2 represents the rail or tie-plate which is formed from a blank
25 having a projecting side which is turned up and formed into the integral angle-bar 3 of less length than the flat part of the plate. The plate is cut back and when the angle bar is turned up the ears or projections 4 are
35 formed and provided with holes 5 to receive the rail spikes, which are driven down into the ties and engage the tops of the rail flanges. In the opposite sides of the plate I provide holes 6 and 7 for spikes, which similarly engage the rail flange or flanges. In order that
40 four spikes may be placed on each side of the joint I punch the holes 8 in the middle part of the plate before the angle bar is turned with the result that the openings or gaps shown are made in the curled edge of the angle bar so that spikes may be driven down close to the edge of the rail plate and sinking below the surface of the angle bar engage the top of the rail-flange or base. A further peculiarity of the angle-bar is shown in Figs. 3

and 4 where it will be seen that the outer part thereof extends inwardly in a horizontal plane, a short distance, forming quite a sharp corner 10 to engage the rail-flange and from which point springs the inclined part of the angle-bar which is completed by the vertical part, the whole having a form resembling that of a fish plate. An ordinary fish-plate or angle-bar 11 is provided on the opposite side or sides of the rail or rails and bolts 12 extend through the rail web and through both the integral angle-bar and the separable angle-bar, thereby firmly securing the rails and joint together and accurately aligning the ends of the rails. When the joint is first placed in position the upper or vertical part of the integral bar does not ordinarily stand exactly straight but it is drawn close into the groove in the side of the rail by the tension on the bolts, the indented lower part of the angle-bar having the corner 10 permitting that part to spring and adjust itself to the rail-base. A perfect tie plate and bed for the rail is thus formed, which plate is strengthened by the upwardly projecting integral angle-bar which, in a sense, forms a truss, and in addition the rails are firmly and squarely held in place, the wide bearing surfaces of the plate upon the ties effectually preventing the tilting of the same.

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

The combination, with a rail or tie plate whereon the rails are adapted to rest and provided with ears 4 having spike-holes, of an integral angle bar formed from said plate and adapted to engage the side of the rail or rails, said integral angle-bar provided with a corner or depressed portion 10 to engage the rail-flange or flanges, and bolts for securing the angle-bar to the rails, substantially as described.

In testimony whereof I have hereunto set my hand this 30th day of December, A. D. 1892.

EDWARD P. CALDWELL.

In presence of—

C. G. HAWLEY,
F. S. LYON.