

No. 776,005.

PATENTED NOV. 29, 1904.

J. H. ALLEN.
RAIL JOINT.

APPLICATION FILED FEB. 26, 1904.

NO MODEL.

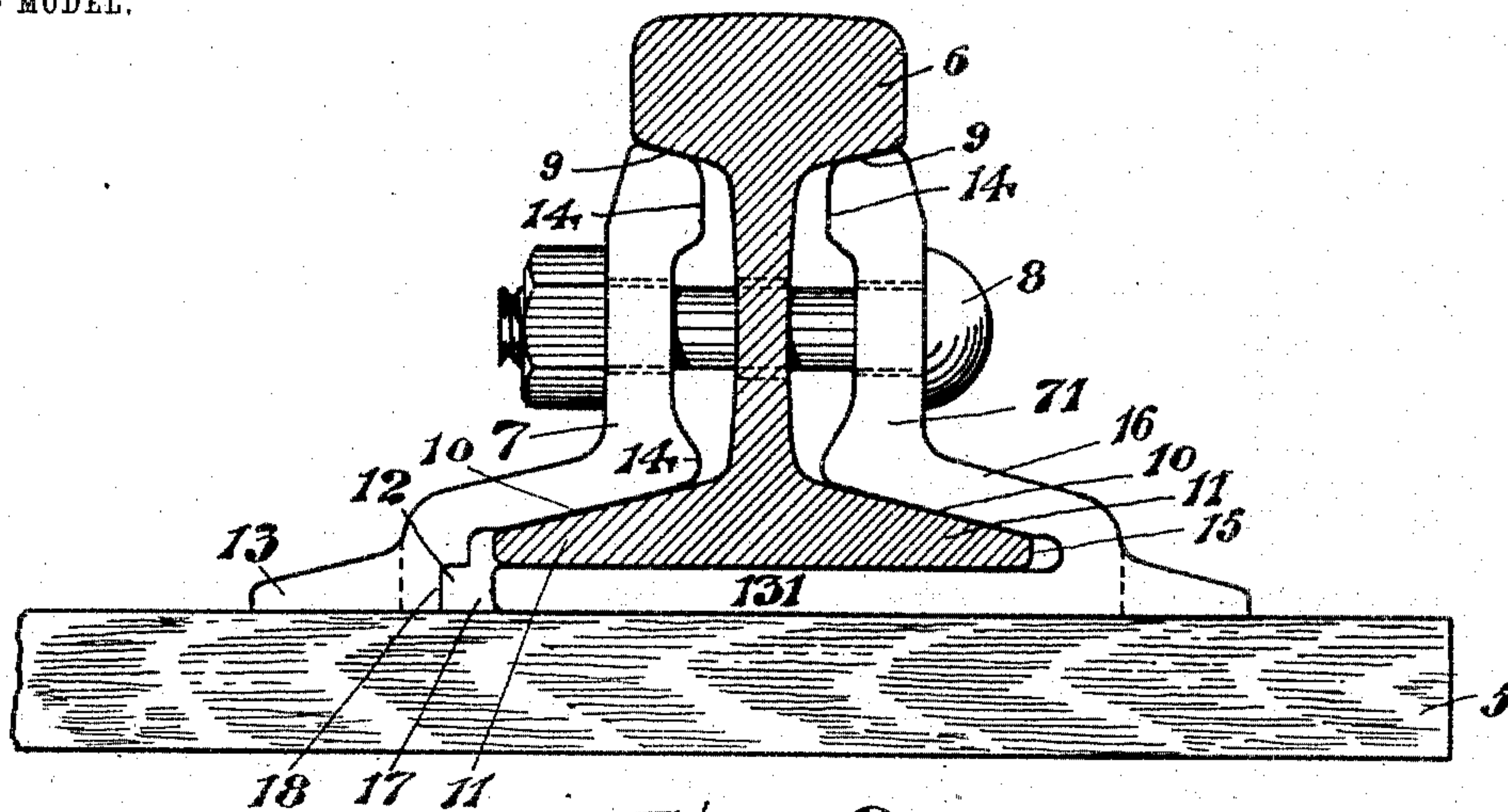


Fig. 2.

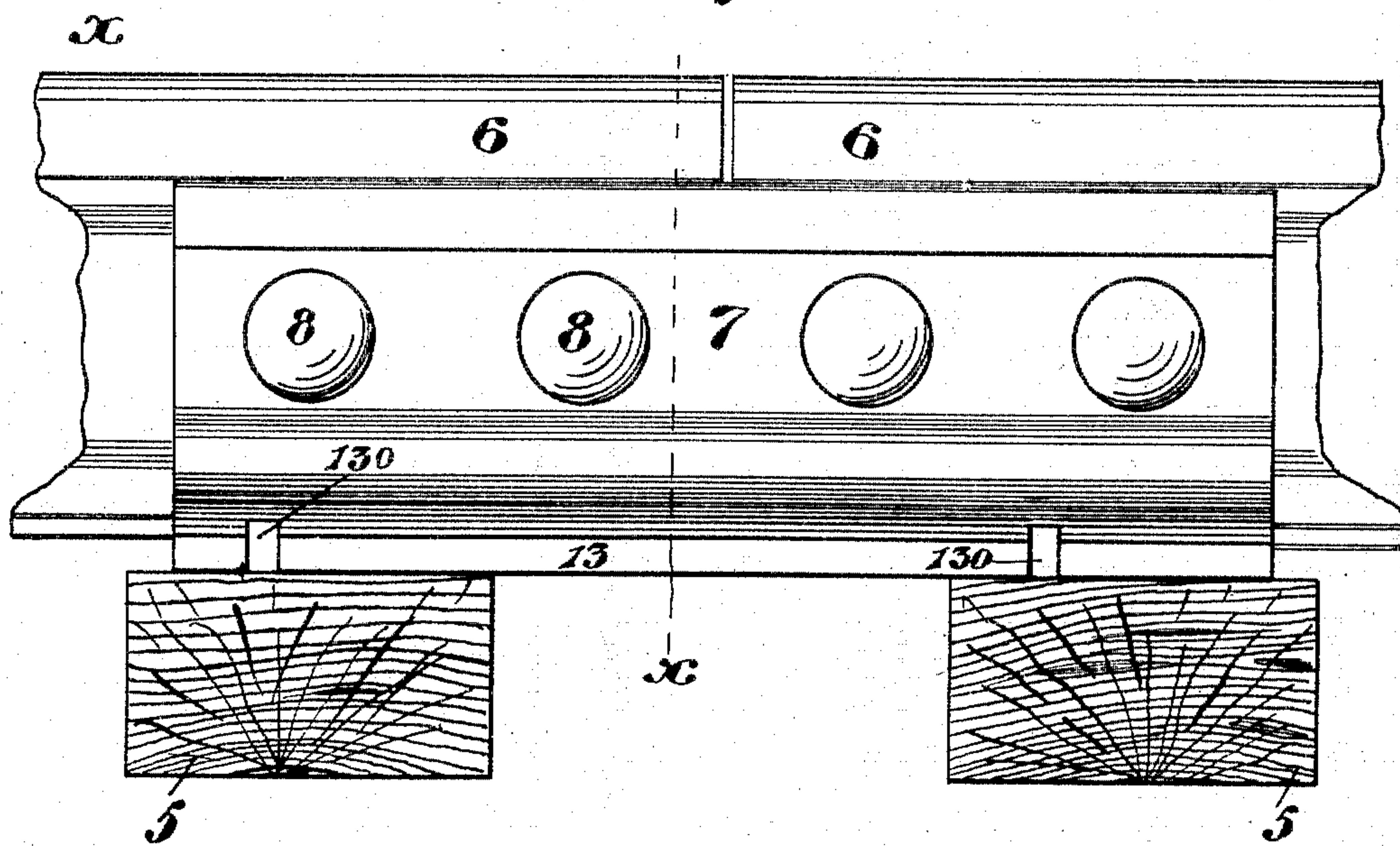


Fig. 1.

WITNESSES:

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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 776,005, dated November 29, 1904.

Application filed February 26, 1904. Serial No. 195,395. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. ALLEN, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Rail-Joints; and I do hereby 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 numerals of reference marked thereon, which form a part of this specification.

The objects of this invention are to secure a more rigid and secure rail-fastening; to prolong the effective life of the connection; to more perfectly protect the ends of the rails, especially at their base-flanges; to prevent the metallic parts more effectually from entering or biting into the wooden ties, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved rail-joint, in the connecting-plates for railway and other rails, and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the claims.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in both figures, Figure 1 is a side elevation of my improved rail-joint, the connecting parts being relatively shortened somewhat for convenience in illustration; and Fig. 2 is a section taken at line *x* of Fig. 1.

In said drawings, 5 5 indicate the ties upon which the rails and connections are supported, 6 6 indicate the adjacent ends of the two abutting rails, and 7 71 indicate the connecting-plates disposed at opposite sides of the said rails and uniting the same, the said connecting-plates being suitably fastened to the rails by means of bolts 8 8.

In my present construction the opposite connecting-plates are not uniformly alike, as in other constructions of which I am aware; but said connecting-plates each have peculiar

structures involving invention and which I will now proceed to describe.

The connecting-plate 7, as well as the connecting-plate 71, at its upper part is of any usual angle-bar construction, having an inclined top bearing 9 adapted to enter beneath and engage the under side of the head of the rail and having beneath said bearing 9 an oppositely-inclined bearing 10 adapted to rest upon the inclined upper side of the base-flanges 11 of the rail, the bearings 9 and 10 giving to the upper part of the connecting-plate a wedge-like structure tending when drawn up by the bolts 8 to bring the rails and connecting-plates into their close or intimate relation, conducing to stiffness, rigidity, and perfection of unity.

The lower parts of the connecting plates or bars 7 71 are provided at their outer longitudinal edges with notches 130 to receive the spikes for fastening the connecting-plates, and said lower parts possess the novel features of the invention, the plate 7 being provided with a recess 12 at a point in line with the "toe" 13 at the inside. The said recess 12 is in line or in a horizontal plane with a bottom or base flange 131 of the opposite connecting-plate 71, the recess being vertically equal in size to that of the base-flange 131, so that when the said base-flange enters said recess, as hereinafter described, there will be an interlocking of parts conducive to rigidity and strength. The said base-flange 131 is of a horizontal dimension greater in extent than the horizontal width of the combined base-flanges 11 11 of the rail, so that when the rail-connecting plates 7 71 are finally brought to their bearings against the rails the said flange 131 will project beyond the edge of the base-flange 11 at the opposite side of the rail from the upper part or body of the plate 71, the said flange 131 being thus adapted to enter the recess 12 to lock the parts, as described. The said flange 131 presents a broad surface to the ties and to the under side of the rail, protecting the said rail at its ends and presenting a broader surface to the wood of the ties, so that the latter will be better able to

support the weight of the passing train without injury.

The spaces between the inner surfaces 14 of the upper part of the connecting-plates and the web of the rail are about equal to the spaces between the edges 15 of the base of the rail and the innermost vertical wall of the groove formed between the base-flange 131 and the inclined extension 16 of the connecting-plate 71 and about one-half the space 17 between the extreme edge of the base-flange 131 and the inner wall 18 of the recess 12, and thus when the connecting-plates and rails are finally brought to their bearings the said rail will be firmly and securely incased at all principal points of bearing, all of which conduces to greater durability, strength, and rigidity, as will be obvious.

Having thus described the invention, what I claim as new is—

1. The combination with the rails, having heads and base-flanges, of rail-connecting plates having bearings to enter between the heads and base-flanges of the rail, one of which said connecting-plates has a horizontal exten-

sion or toe at its bottom and a recess horizontally opposite said toe on its inner side and the other said connecting-plate having a base-flange which extends underneath the rail base-flanges and is adapted to project beyond said base-flanges into said recess to effect an interlocking of the opposite connecting-plates, substantially as set forth.

2. The combination with the rails, of connecting-plates arranged at opposite sides of said rails and bolts for fastening said plates and rails together, one of said plates having a recess formed below the plane of the base of the rail and the other of said plates a base-flange wider than the base of the rail and adapted to project into said recess, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of February, 1904.

JOHN H. ALLEN.

Witnesses:

CHARLES H. PELL,

C. B. PITNEY.