(No Model.)

M. HALL & W. H. BAKER.

RAILWAY RAIL JOINT.

No. 520,425. Patented May 29, 1894.

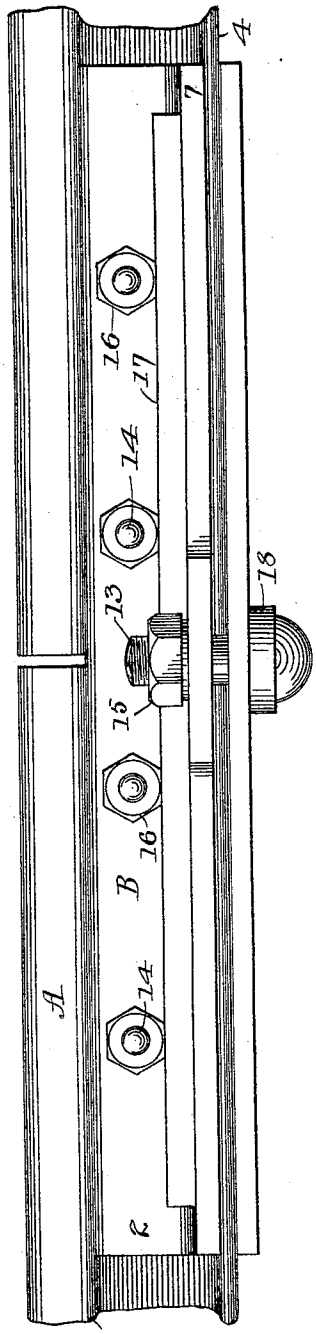

Fig. 1.

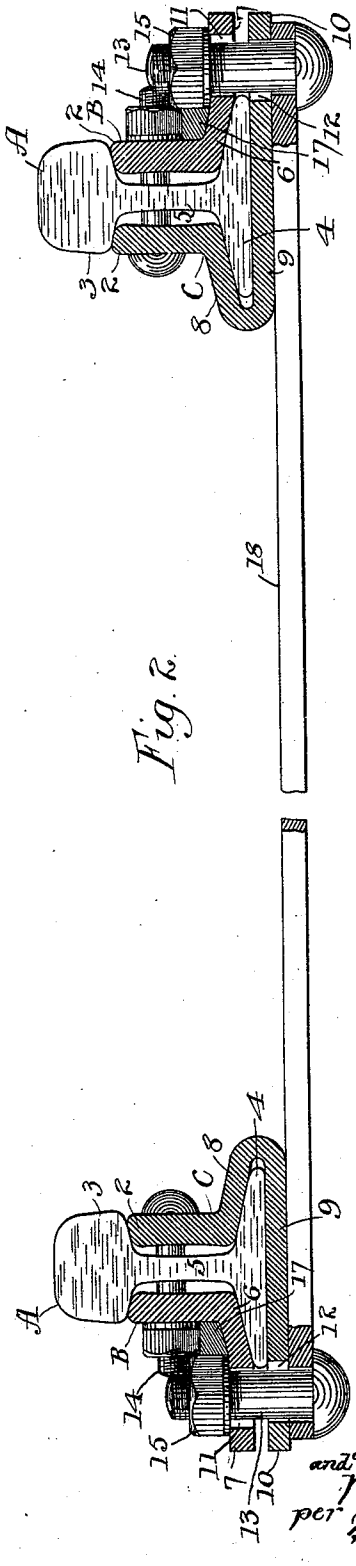

Fig. 2.

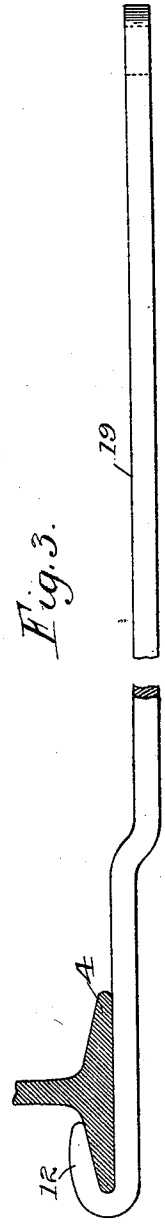

Fig. 3.

Witnesses:-
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THE NATIONAL LITHOGRAPHING COMPANY.
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UNITED STATES PATENT OFFICE.

MAJOR HALL AND WILLIAM H. BAKER, OF ST. PAUL, MINNESOTA, ASSIGNORS OF ONE-HALF TO JACOB W. THOMPSON AND MARTHA VIS, OF SAME PLACE.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 520,425, dated May 29, 1894.

Application filed June 29, 1893. Serial No. 479,191. (No model.)

To all whom it may concern:

Be it known that we, MAJOR HALL and WILLIAM H. BAKER, both of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Railway-Rail Joints, of which the following is a specification.

Our invention relates to improvements in the joints or couplings of railway track rails; its object being to provide an improved form of joint, a nut locking attachment therefor, and a tie bar connecting the opposite joints to prevent the spreading of the rails.

To this end our invention consists in providing angle bars so formed as to bear solely upon the ball and base of the rail, standing normally out of contact with its web, so that as the wear takes place the securing bolts may be tightened and the bars drawn closer inward toward the web. The lower member of each bar lies upon the base of the rail and an extension on one is bent underneath the rail, projecting beyond the opposite edge. The lower member of the other bar has an extension which projects beyond the edge of the rail parallel with the extension of the other bar. Through the parallel edges of the extensions are cut bolt holes which are larger than the bolt or are elongated transversely of the rail, through which a vertical securing bolt is passed, the shape of the bolt holes permitting lateral movement of the angle bars with reference to each other. A nut luck is provided by means of a bar fitted closely into the corner of the angle bar, and bearing against the nuts upon the vertical and horizontal bolts. We also provide a tie bar having holes through its ends to receive the vertical angle bar bolts, by means of which opposite joints may be firmly connected so as to prevent the spreading of the rails.

Our invention further consists in the construction and combination hereinafter more particularly described and pointed out in the claims.

In the accompanying drawings forming part of this specification: Figure 1 is a side elevation of our improved joint. Fig. 2 is a cross section of two joints showing the connecting tie bar, and Fig. 3 is a detail of a modified form of tie bar.

In the drawings A A represent the rails, against one side of the meeting ends of which the angle bar B is arranged, and on the other side the angle bar C. These bars are formed so that the upper edges of their vertical members 2 bear against the under side of the ball 3 of the rail, the lower member resting upon the sloping upper surface of the base 4. The inner face of the bar thus stands a slight distance away from the web 5 of the rail. The lower member 6 of the bar B is bent outward at an obtuse angle with the vertical web, so as to conform to the slope of the rail base 4, the outwardly projecting extension 7 being bent at a slight angle with the part 6 so as to be approximately horizontal. The member 8 of the bar C is similarly bent to fit to the top of the rail base, and has an extension 9 bent underneath the rail, leaving an open space between the bend and the edge of the rail, the extreme projecting portion 10 standing parallel with, but separated from the extension 7. Through the extensions are cut bolt holes 11 and 12 enlarged or slotted in a direction transverse of the rail. Through these bolt holes is passed the vertical bolt 13, by means of which the extensions can be gripped tightly upon the rail base, and the extension 9 firmly supports the abutting ends of the rails. The bolts 14 are passed through holes in the vertical members 2 of the bars, and through corresponding openings in the web of the rail in the ordinary manner, so as to grip the bars against the rail. The nut 15 of the vertical bolt, and the nuts 16 of the horizontal bolts, are locked by means of a bar 17 which is slipped or driven into the corner of the angle bar B, so as to bear against the adjacent faces of the nuts.

In order to prevent the spreading of the rails we provide a tie bar 18, which is provided at each end with a bolt hole through which the bolts 13 are passed so as to secure it firmly to the joints, and thus prevent the spreading of the rails. In case the joints are not exactly opposite each other, we use a modified form 19 of tie bar, one end of which is fitted with a hole to receive the bolt 13, and the other with a hook 12 to engage the outer edge of the base of the opposite rail.

It will be seen from the foregoing description and the drawings that the tightening of

the nuts of the bolts 14 draws the angle bars toward the webs of the rails wedging them between the balls and bases. As the bearing surfaces are worn by use, the tightening of these bolts draws the bars still farther inward and secures a firm joint, the space between the edge of the rail bases and the inclosing bend of the angle bar B, permitting the rail base to farther enter the bend. The vertical bolts 13 clamp the extensions firmly upon the rail base, the space between them permitting of the tightening of the bolts to compensate for wear. The enlarged or slotted bolt holes permit the extensions to be moved laterally with the tightening of the bolts 14. By this means the wear upon any part of the bars can be compensated for.

We claim—

1. In a device of the class described, the combination with the rails, of the angle bars, a lateral horizontal extension upon the lower member of one bar, an extension upon the lower member of the other bar extending beneath and beyond the rail, substantially parallel with the extension of the other bar, but not in contact therewith, registering bolt holes in said extensions, and the securing bolt arranged in said holes outside said rails, said holes being enlarged or slotted transversely of the rails, substantially as described.

2. The combination with the rails, of the angle bars adapted to bear against the rail ball and base only, the securing bolts therefor, a lateral extension upon the lower member of one bar projecting beyond the rail, an extension upon the lower member of the other bar arranged underneath and projecting beyond the opposite edge of the base of the rail, substantially parallel, but not in contact with the extension upon the other bar, and relatively lateral adjustable means for clamping said extensions upon the base of the rail to take up the wear thereof, substantially as described.

3. In a railway rail joint, the combination with the rails, of the angle bars adapted to be clamped on opposite sides of the meeting ends thereof and having extensions, one bent underneath and serving as a support for the rails, and both projecting parallel with, but separated from each other, beyond the rails, and means permitting relative lateral movement of said extensions for clamping the same together, substantially as described.

4. In a railway rail joint, the combination with the rails, of the angle bars, the extensions upon the lower edges of said angle bars, one projecting beneath the base of the rails and both projecting substantially parallel beyond the edge of the base, the registering openings through said extensions elongated or enlarged in a direction transverse of the rails, the securing bolt arranged in said registering openings, and the tie bar connected at one end to the opposite joint or rail, and having an opening to receive said bolt and be secured thereby to said joint, substantially as described.

5. The combination with the railway rail joints having angle bars with extensions upon their lower edges, one passing underneath the rail base and serving as a support therefor, and both projecting parallel with each other beyond the edge of the rail base, having registering openings therethrough elongated transversely thereof, the clamping bolts arranged in said openings, and the tie bar having an opening at each end adapted to receive one of said bolts whereby it may be secured to and bind together the opposite joints of the track, substantially as described.

6. In a railway rail joint, the combination with the rails, of the angle bars having extensions on their lower edges, one bent underneath the rails and both projecting substantially parallel beyond the edge of the rails, and provided with registering, transversely elongated bolt holes, the vertical bolt secured in said registering holes, horizontal bolts passing through the angle bars and the webs of the rails, and the locking bar inserted between and bearing against the adjacent faces of the nuts of said vertical and horizontal bolts and the corner of the angle bar, substantially as described.

In testimony whereof we have hereunto set our hands this 29th day of April, 1893.

MAJOR HALL.
WM. H. BAKER.

Witnesses:
T. D. MERWIN,
H. Y. JOHNSON.