

(No Model.)

2 Sheets—Sheet 1.

F. H. HEATH.
RAIL JOINT.

No. 500,388.

Patented June 27, 1893.

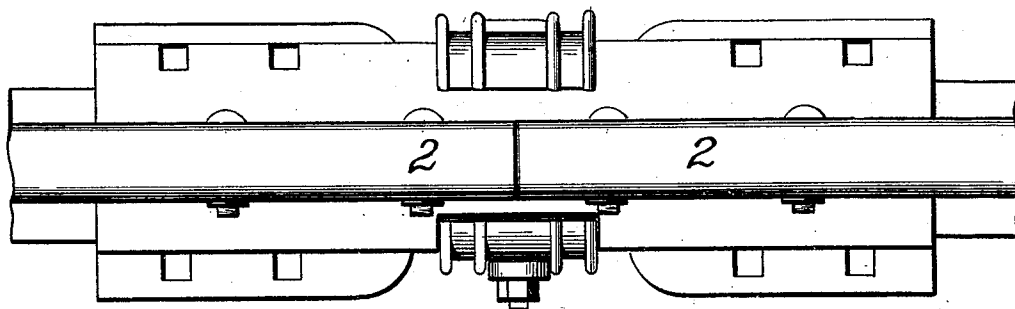


Fig. 1.

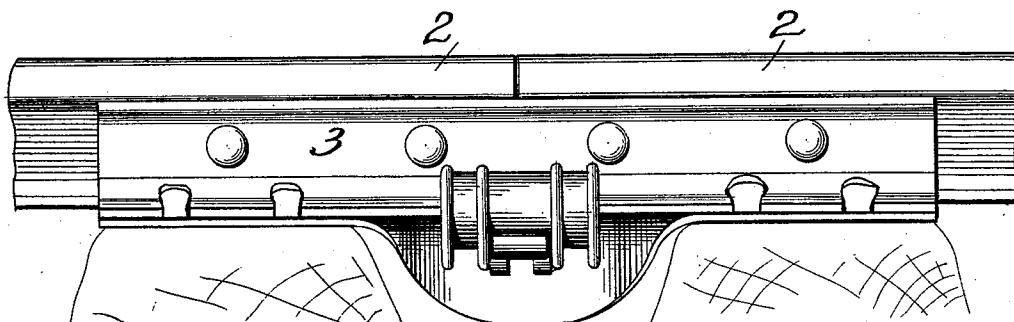


Fig. 2.

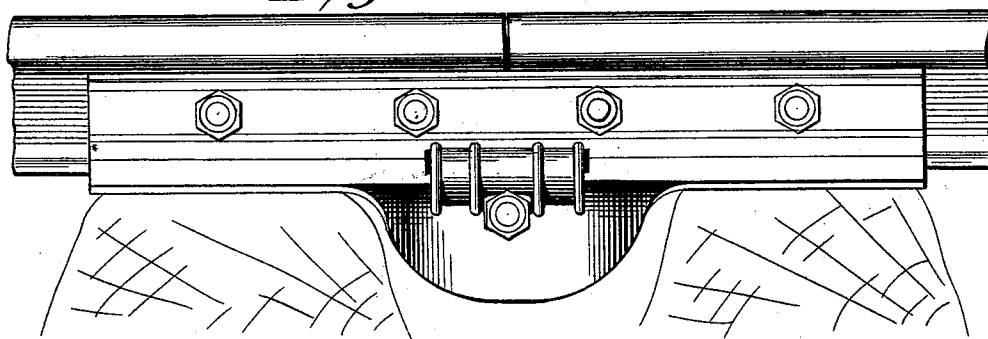


Fig. 3.

Witnesses,

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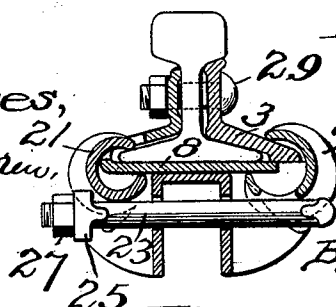


Fig. 4. his Attorneys.

(No Model.)

2 Sheets—Sheet 2.

F. H. HEATH.
RAIL JOINT.

No. 500,388.

Patented June 27, 1893.

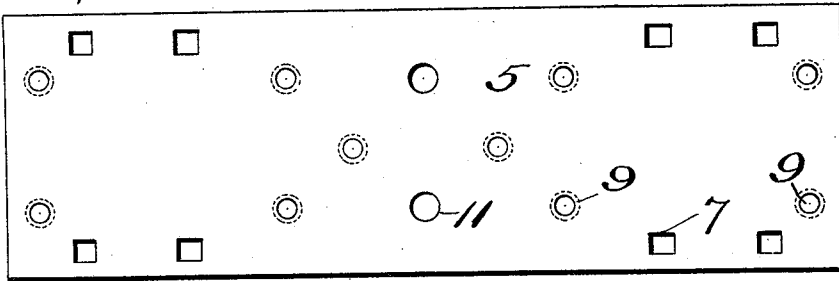


Fig. 5.

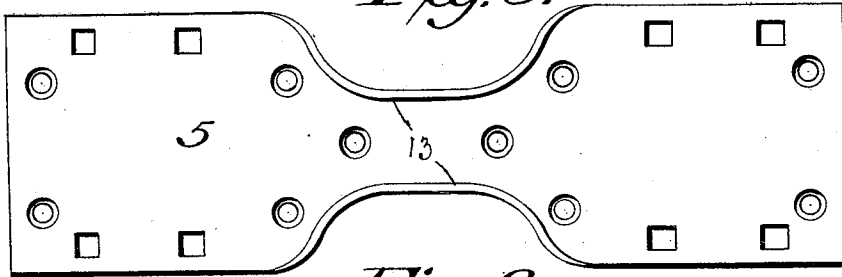


Fig. 6.

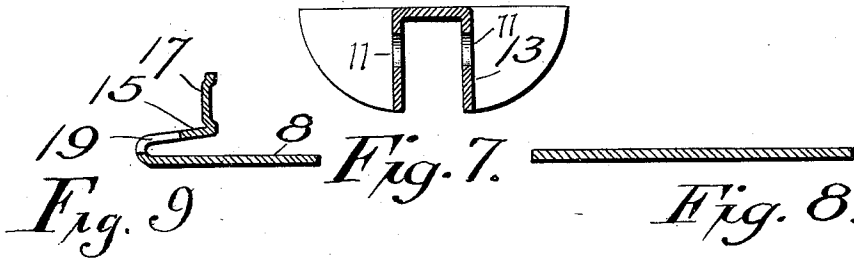


Fig. 8.



Fig. 10.

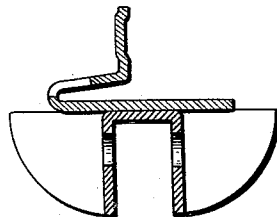


Fig. 11.

Witnesses.
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UNITED STATES PATENT OFFICE.

FREDERICK H. HEATH, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO THE
HEATH RAIL JOINT COMPANY, OF WATERLOO, IOWA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 500,388, dated June 27, 1893.

Application filed August 12, 1892. Serial No. 442,887. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK H. HEATH, of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Rail-Joints, of which the following is a specification.

The object of this invention is to provide means for supporting the meeting ends of railroad rails, that shall firmly support the ends of said rails and which at the same time will be simple and inexpensive.

The invention consists generally in a joint provided with the base plate formed of a single sheet of metal, having longitudinal trusses at the central portion thereof, said trusses being formed by bending downward the opposite edges of the metal.

The invention consists further in a joint, provided with a base plate of this kind in connection with an angle iron plate secured to the base plate and also struck up from a single sheet of metal.

The invention consists further in constructions and combinations hereinafter described and particularly pointed out in the claims.

In the drawings forming part of this specification; Figure 1 is a plan view of a rail joint embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation looking at the opposite side from Fig. 2. Fig. 4 is a transverse central section of said joint. Fig. 5 is a plan view of the base plate after it has been punched and prior to the forming of the trusses. Fig. 6 is a plan view of the finished plate. Fig. 7 is a transverse section on line 6-6 of Fig. 6. Fig. 8 is a section of the angle iron plate prior to its being subjected to the process of punching and striking up. Fig. 9 is a transverse section of the finished angle iron plate. Fig. 10 is a detailed section showing the two plates secured together. Fig. 11 is a transverse section centrally through the two plates secured together.

In the drawings, 2-2 represent the ends of the rails, and 3 represents an ordinary angle iron bar which I use upon one side of the rails.

My improved base plate 5 consists of a single sheet of metal which is at first substantially rectangular in form as shown in Fig. 5.

This plate is punched to provide the openings 7 for the spikes and the openings 9 for the rivets for securing it to the angle iron plate, hereinafter described, and with the openings 11, to receive the transverse bolt that holds the clamps in position, as hereinafter described. At each side of the plate and near the center thereof I form the trusses 13 by bending downward the metal at each side of the plate so that it stands at right angles to the body of the plate, as shown in Figs. 6 and 7. Said trusses 13 extend lengthwise of the plate, gradually turn and merge into the horizontal portions of the plate as indicated in Fig. 7. These trusses greatly strengthen the plate at the central portion thereof and the plate is so arranged when in use that the trusses come directly under the meeting ends of the rails. The angle iron plate that I use in connection with said base plate is struck up from a single sheet of metal into substantially the form shown in Fig. 9, being provided with the angle iron parts 15 and 17. This plate is provided with the opening 19 at the center thereof and also with suitable bolt holes in the upright portion 17, said bolt holes corresponding to the holes in the rails and in the angle iron 3.

The angle iron plate 8 and the base plate 5 are preferably secured together by means of suitable rivets arranged in the openings 9, or passing through the openings 9 in the base plate and through corresponding openings in said angle iron plate. Said plates are thereby secured together and have an angle structure. I use in connection with said plates the clamps 21, one of said clamps engaging the under surface of the angle iron plate 8 and upper surface of the angle iron 3, and the other clamp engaging the under surface of the angle iron plate 8 and the flange of the rail through the opening 19. These clamps are secured together by the bolt 23 provided with suitable washer 25 and nut 27, and said bolts passing through the openings 11 in the trusses 13 of the base plate.

In laying the track, the base plate with the angle iron plate secured thereto is laid upon the ties as shown in Figs. 1, 2, and 3, so as to bring the trusses 13 between two of said ties and directly under the meeting ends of the

rails. The angle iron 3 is then put in position and bolts 29 are provided which pass through the angle iron 3, through rails, and through the angle iron plate. Said plates are also spiked to the ties and the clamps 21 are secured in position by means of the bolt 23. By this means a joint is formed that is substantially as strong as any part of the track, and any downward depression of the ends of the rails by the passing of the train over said track and the consequent pounding of the ends of the rails are prevented.

I claim as my invention—

1. The base plate 5 formed of sheet metal and having the struck trusses extending longitudinally thereof in combination with the angle iron plate secured to said base plate, and provided with the angle portion struck up from the main body of the plate and adapted to fit against the web of the rail.

2. The combination with the base plate formed of sheet metal and having the longitudinal trusses formed integrally therewith, with the angle iron plate secured thereto and provided with the angle portions 15 and 17, adapted to fit against the web of the rail.

3. The combination with the rails, of the base plate 5 formed of sheet metal, provided with the longitudinal trusses 13 at right angles to said plate, the angle iron plate 8 provided with the angle portions 15 and 17 and riveted to said base plate, the angle iron 3, the bolts 29, clamps 21 and bolt 23, substantially as described.

4. The combination, with the base-plate formed of sheet metal and having a depending truss or trusses formed integrally therewith, of the angle-iron plate secured to said base-plate and provided with the angle portion formed integrally with said angle iron plate and adapted to fit against the web or side of the rail.

5. The combination with the base-plate formed of sheet metal and provided with an integral truss or trusses arranged near the central portion thereof whereby the ends of the base-plate are adapted to rest upon the ties while the trusses come between the ties, of the angle iron plate secured to said base-plate and provided with an angle portion formed integrally with the main body of the

plate and adapted to fit against the side or web of the rail, substantially as described.

6. The combination with the sheet metal plate 8, of the integral angle-iron struck up from one edge thereof and provided with the slot 19, the rail or rails, means for securing the same to said angle iron, and clamps for securing the rails upon said plate, one of said clamps extending through said slot 19 into engagement with the flange of the rail, substantially as described.

7. The combination with the wrought metal plate 8 having the slot 19, of the base-plate secured to the under side of said plate 8 and having the integral trusses 13, the rails, means for securing the rails to said angle-bar or iron, and clamps for securing the rail or rails upon the plate 8, one of said clamps extending through the slot 19 in the integral angle-bar, substantially as described.

8. The combination with the plate 8 having the integral angle-iron provided with the slot 19, of the plate 5 attached to the bottom of said plate 8 and having the integral middle trusses 13, said trusses provided with the bolt-holes, the rails secured to said angle-iron, the clamps, one of which extends through said slot 19 into engagement with the flange of the rail, and the connecting bolt of said clamps, said bolt extending through said holes in said trusses, substantially as described.

9. The combination with the wrought-metal plate 8 provided with the integral angle-iron, of the wrought-metal plate 5 provided with the integral trusses 13, said plates being secured together, the rails, the separable angle-iron 3, the bolts 29 for securing the same and the rails to the said integral angle-iron, the curved rocker-clamps engaging the flange of the rail and the top of the separable bar 3, and the connecting tension-bolt 23 of said clamps, said bolt extending through holes provided in said trusses 13, substantially as described.

In testimony whereof I have hereunto set my hand this 8th day of August, 1892.

FREDERICK H. HEATH.

In presence of—

F. S. LYON,
A. C. PAUL.