(No Model.)

H. T. MORSE.

SUSPENSION JOINT FOR RAILWAY RAILS.

No. 264,736. Patented Sept. 19, 1882.

Fig: 1

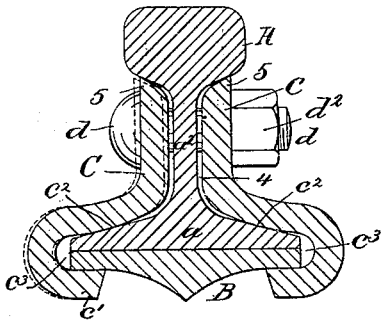
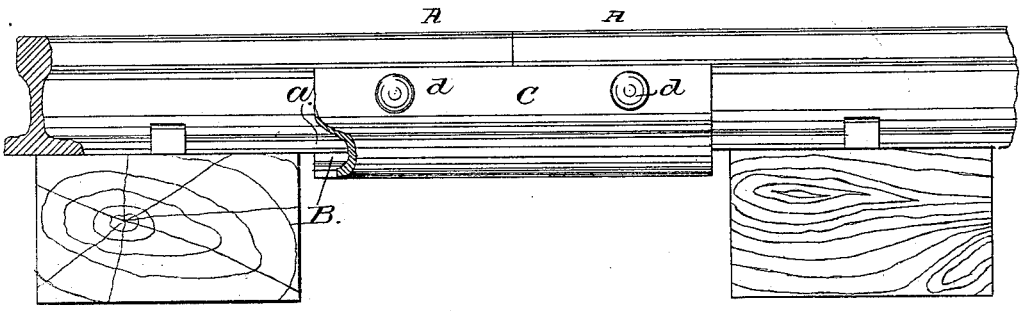


Fig 2.



Witnesses
Fred A Powell
John F. C. Brinkerhoff

Inventor.
Henry T. Morse
by Crosby & Gregory attys.

UNITED STATES PATENT OFFICE.

HENRY T. MORSE, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF THREE-FOURTHS TO WM. WALLACE PAGE, GEO. MARSHALL LEE, AND EVERETT D. LEE, ALL OF SAME PLACE.

SUSPENSION-JOINT FOR RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 264,736, dated September 19, 1882.

Application filed July 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY T. MORSE, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Suspension-Joints for Railway-Rails, of which the following description, in connection with the accompanying drawings, is a specification.

My invention has for its object the production of a joint to support the meeting ends of the rails so firmly that they will not be depressed by any usual weight thereon; and my invention consists essentially in the combination, with the ends of two rails and a base-plate, of two fish-plates having hooks to extend under the flanges of the rails and under the base-plate, the said fish-plates and rails being so shaped with relation to each other, as will be hereinafter described, that the fish-plates, touching the rails at certain points and not touching them at other points, will be made to act as levers and bind all the parts firmly together.

Figure 1 of the drawings represents in vertical section a railway-rail with my improved suspension-joint added, and Fig. 2 a side elevation thereof, one of the fish-plates being partially broken out.

The rail A and its tread-face or top may be of any usual construction. The base-plate B is extended under the flanges *a* of the abutting ends of two rails A A. The fish-plates C, of wrought metal, are bent at their lower edges to form hooks c', to extend under the base-plate and embrace its edges and that of the flange or base *a* of each rail, and above the flanges of the rails the fish-plates are shaped at their inner sides to contact with the rails only for a short distance at the points c^2, leaving spaces c^3 between the edges of the base-plate and the interior of the hooked parts c', and spaces 4 between the webs a^2 of the rails and the vertical parts of the fish-plates, as shown in Fig. 1.

The dotted lines at the left of Fig. 1 show the fish-plate at that side of the rail in its normal condition, as when first applied to the rails, and before the nuts d^2 of the bolts *d* have been turned to force the fish-plates toward the webs of the rails. As shown by the said dotted lines, the curved top edges of the fish-plate do not quite touch the convexed or beveled under side of the head or tread of the rail; but as the nut d^2 is turned on the bolt to draw the fish-plates together the upper edges of the latter will come against and act to support the under side of the tread of the rail, and at the same time the fish-plates bearing on the rails at the points c^2 are turned over or rocked on such points of contact, the rails serving as a fulcra for the fish-plates, which act as levers, and by their hooked ends c', in contact with the under side of the base-plate B, force the same closely up against and bind it to the base of the rails so firmly as to keep the under side of the abutting ends of the two rails at the same level. In this way it is obvious that the fish-plates, when drawn together by the bolts, always act to support the rails at their lower sides below their flanges and at their under sides of the heads or treads of the rails, as shown in full lines, Fig. 1; and the abutting ends of the rails so supported will be kept exactly at the same level under all conditions of pressure or strain insufficient to break the bolts or rails. The fish-plates have been so shaped as to enable them to be readily rolled into such shape at little expense.

I do not broadly claim a fish-plate bent to extend about and under the flanges of the rail and under a base-plate, as that I know to be old.

The base-plate is shown as ribbed, or made thicker along its central part, to give to the same extra stiffness.

I claim—

The two rails A A, base-plate, and bolts and nuts combined with two fish-plates having hooked edges to embrace the flanges of the rails and the base-plate, and shaped to contact with the flanges of the rail at c^2, as described, and leave spaces c^3 and spaces 4, whereby the fish-plates, when drawn together, act as levers to bind the base-plate and rails closely together and support the rails firmly, as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY T. MORSE.

Witnesses:
G. W. GREGORY,
W. H. SIGSTON.