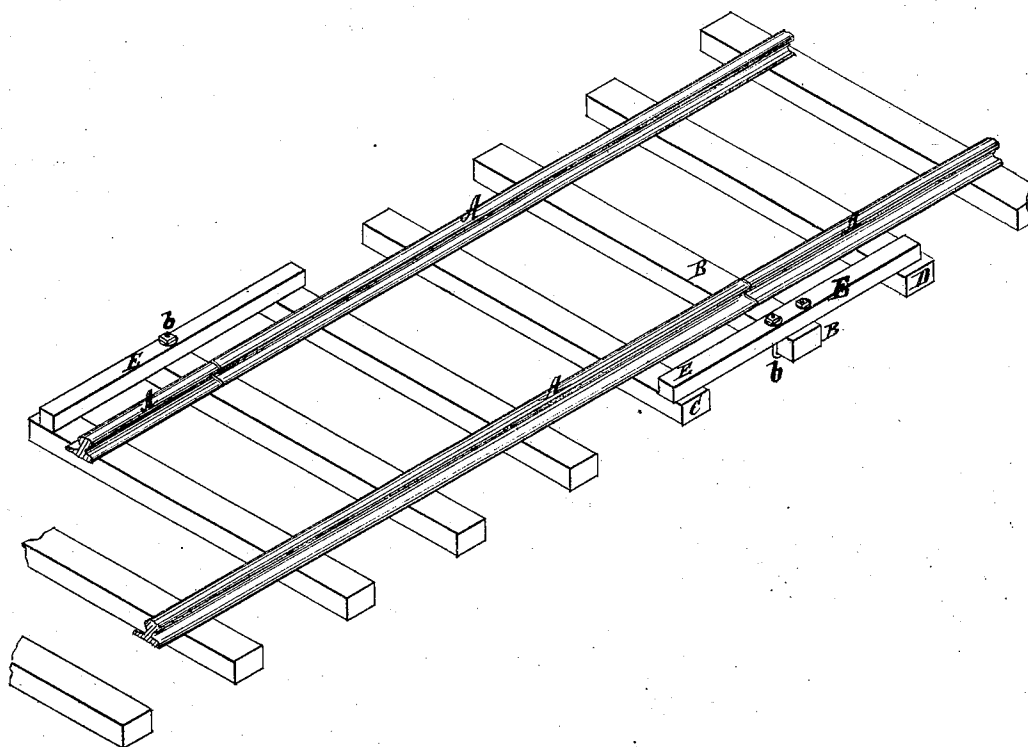


H. HARDING.
Railway Rail-Joint Stiffeners.

No. 145,649.

Patented Dec. 16, 1873.



Witnesses:
G. Martyn.
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Per *[Signature]*
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UNITED STATES PATENT OFFICE.

HORACE HARDING, OF TUSCALOOSA, ALABAMA.

IMPROVEMENT IN RAILWAY RAIL-JOINT STIFFENERS.

Specification forming part of Letters Patent No. **145,649**, dated December 16, 1873; application filed July 21, 1873.

To all whom it may concern:

Be it known that I, HORACE HARDING, of Tuscaloosa, in the county of Tuscaloosa and State of Alabama, have invented a new and Improved Railway-Joint Stiffener; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

The figure represents a perspective view.

The invention relates to a mode of preventing the depression which takes place in the cross-tie that supports the joints of railroad-rails, occasioned by the pounding and play of the ends of the rails at that point. The invention consists in the means employed to support the joint-tie and lessen its tendency to sink below the level of the other ties.

In the drawing, A A represent two rails, whose ends meet and form a joint on the tie B. C and D are the ties, which are, respectively, next adjacent on either side. At right angles to the joint-tie B I rigidly attach, by a yoke, *b*, or any other fastening, the bar E, the middle of whose subjacent face rests flatly upon the joint-tie B, while each end is supported upon the parallel and next adjacent ties C D. It will thus be perceived that one-third

of the strain applied to the top of the joint-tie B will be transferred to each of the ties C D, thereby entirely preventing the upper surfaces of these three ties from moving out of the same plane, while neither, in practice, will sink to such an extent as to be objectionable when laid upon an ordinarily good bed. One of these bars E will be preferably placed opposite to each joint, and parallel to the rails.

By this simple device the thumping and jarring which are so often observable upon railroads are entirely prevented.

I am aware that a fish-plate, fastened over the flange of a rail, and bolted with the flange to all the cross-ties upon which it rests, is not new; but

What I claim, and desire to protect by Letters Patent, is—

The combination, with two rails jointed on a cross-tie, B, of the simple parallel wooden bar E, independent of and at some distance from the rails, and rigidly fastened to the tie B, but resting loosely on the ties adjacent and on each side thereof, as and for the purpose described.

Witnesses: HORACE HARDING.

J. M. MARTIN,

A. S. NICHOLSON.