(No Model.)

H. D. AVERA.

RAILROAD JOINT.

No. 433,314. Patented July 29, 1890.

Fig. 1.

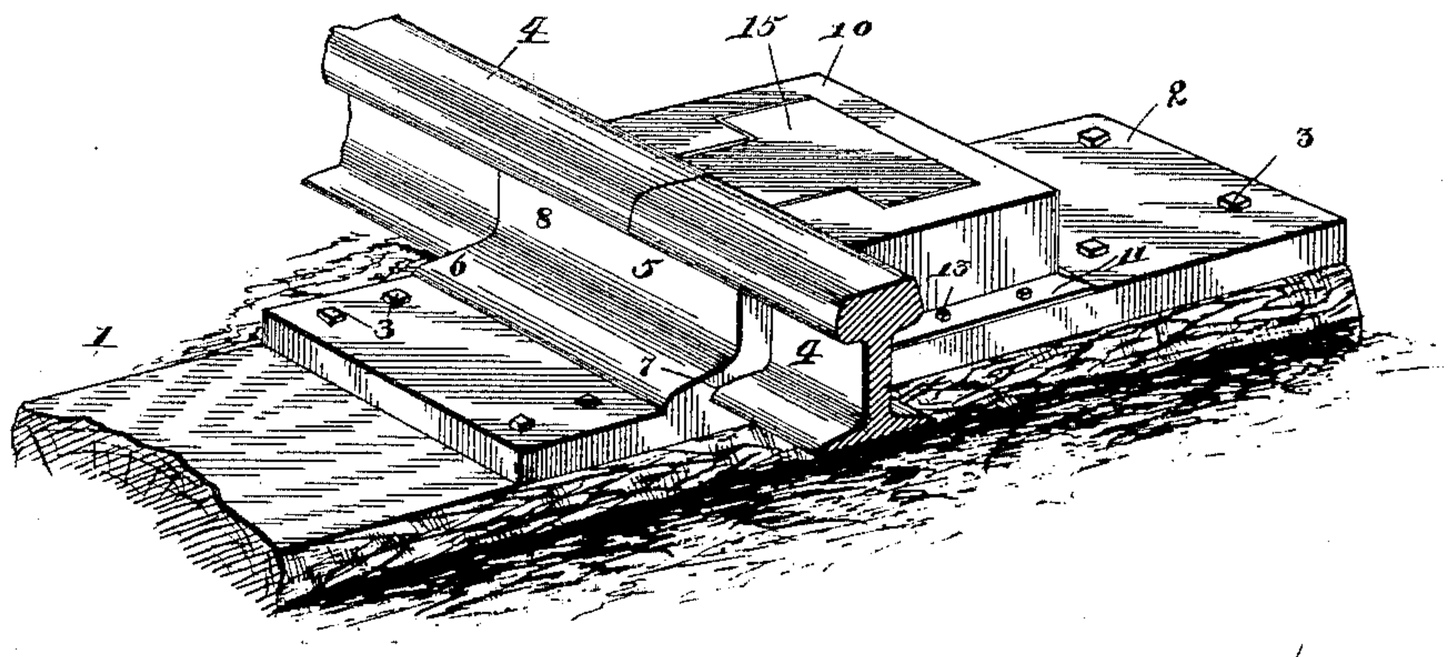


Fig. 4.

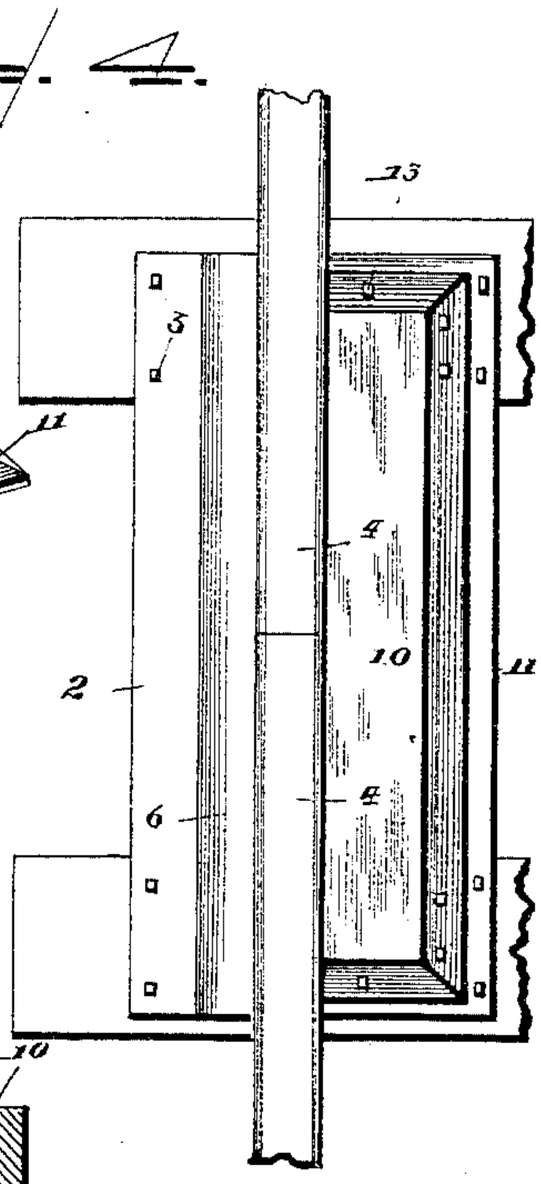


Fig. 2.

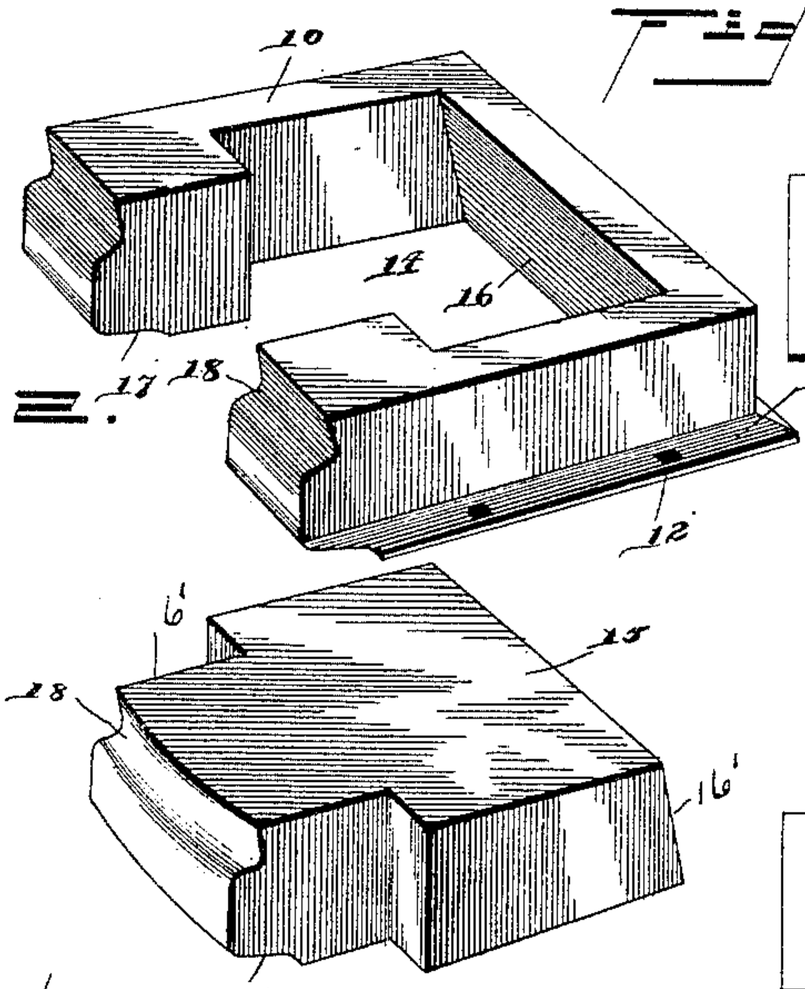
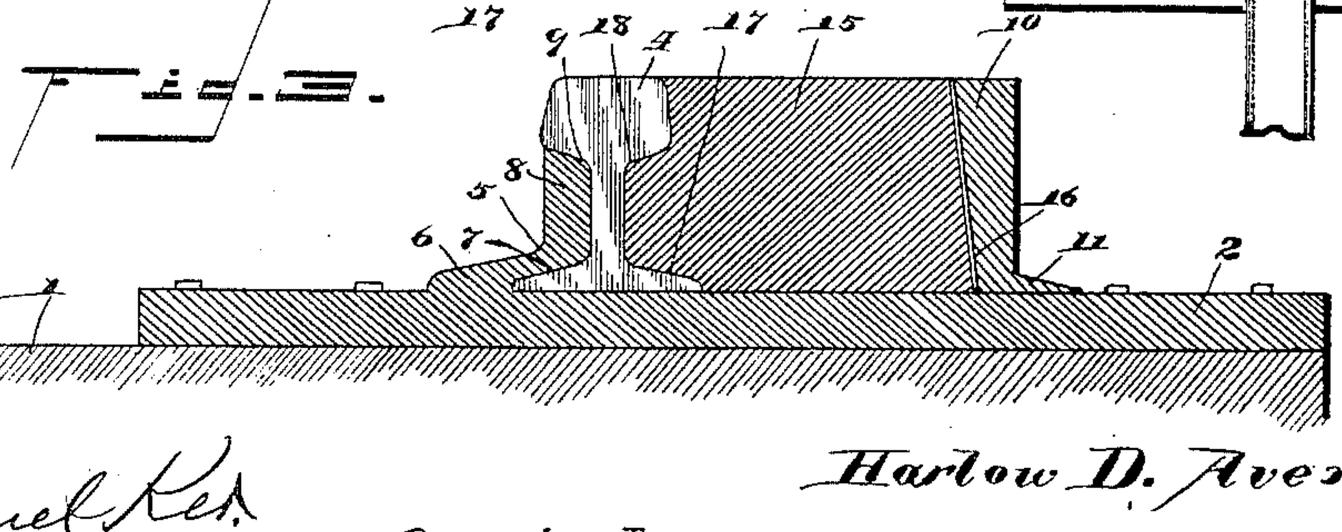


Fig. 3.



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UNITED STATES PATENT OFFICE.

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RAILROAD-JOINT.

SPECIFICATION forming part of Letters Patent No. 433,314, dated July 29, 1890.

Application filed March 26, 1890. Serial No. 345,440. (No model.)

To all whom it may concern:

Be it known that I, HALROW D. AVERA, a citizen of the United States, residing at Rocky Mount, in the county of Edgecombe and State of North Carolina, have invented a new and useful Railroad-Joint, of which the following is a specification.

This invention has relation to railway-joints, and, although intended for the connection of two adjacent ends of rail-sections, it will be apparent from the following description that the invention may be employed for securing the rail-sections to cross-ties between the ends of or at the middles of the sections.

The objects of the invention are to securely bind the ends of adjacent sections in position upon the tie in such a manner as to permit of all expansion and contraction of the metal sections without in any way affecting or rendering inefficient the joint between the rail-section; furthermore, to obviate the wearing away of the ends of the sections by reason of the wheels pounding upon the same when the sections are slightly separated.

With these general objects in view the invention consists in certain features of construction, hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a railway-joint constructed in accordance with my invention. Fig. 2 is a detail in perspective of the movable clamp, the parts being separated. Fig. 3 is a transverse section through the rail, the clamps, tie, and securing-plate. Fig. 4 is a plan of a modified construction, wherein the device is adapted for heavy tracks.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 represents the usual tie, those of which occurring at the rail-joints being provided near their opposite ends with superimposed metallic plates 2, of a length sufficient to extend at each side of the rail-sections, and being securely spiked to the ties, as at 3. The plates 2 have cast integral therewith a fixed clamp 5, which extends transversely to the track and rises vertically therefrom, and has its outer face so formed as to fit snugly into the configurations of the rail, said clamp being provided with an undercut groove 7, fitting the base of the rail and having its upper edge beveled, as at 9, to take under the head of said rail.

4 represents the rail-sections, the ends of which meet at the center of the fixed clamp 5. At the opposite or outer side of the rail-sections there is located the movable clamp 10, which is of rectangular shape and has its three outer sides surrounded by a beveled flange 11, provided with spike-holes 12, located at intervals, and through the same are driven spikes 13, which spikes pass through the flange and also through the plate 2 into the tie. The movable clamp 10 is provided with a T-shaped recess or opening 14, in which is mounted a T-shaped block or clamping-section 15, slightly smaller than the recess 14. The rear wall of the recess 14 is undercut or inclined from its upper edge toward its lower edge, as shown at 16, and in a similar manner is the rear end of the block 15 formed, as shown at 16′.

From the construction described it will be apparent that the block having been inserted into the movable clamp 10 from below the same, and said clamp bolted in position, it will be impossible to withdraw the block without removing or unspiking the movable clamp from the cross-tie, while at the same time said block is comparatively loose within its recess or opening, and will by reason of the slight difference in size between the block and its opening be capable of movement and readily yield to expansion of the metal. The inner faces of both the block and the clamp are similarly formed and agree with the facial contour of the side of the rail, the block and clamp being undercut, as at 17, to receive the base of the rail, and provided with a longitudinal recess 18 at their upper edges to receive the head of the rail.

The construction herein described is especially adapted for light roads, and I have illustrated in Fig. 4 of the drawings a slightly-modified construction, whereby the invention may be applied and used with success in heavy roads. In this latter construction the plate 2 is made somewhat wider, and the ends of the plate rest upon two ties spanning the space between the same and spiked to the ties, as shown. The fixed clamp and also the movable clamp are arranged lengthwise to the plate 2, and agree in length with said plate. The fixed clamp remains unaltered in its con-

struction; but the movable clamp is made narrower to effect a saving in the metal, and is preferably formed without the recess 14 and the clamping-block 15. The block-section, or, rather, its shank portion 6′, is somewhat longer than the distance from the front edge of the clamp 10 and the front wall of its opening, so that said shank portion will extend a very slight distance beyond the face of the clamp 10. The block 15 is first placed in position in its recess, and then the clamp 10 and block spiked in position upon the plate. The inclined face 16 of the opening 14 serves to bind the block snugly against the rails opposite their joint as the spikes are driven home. The block 15 and the clamp are of a depth or thickness agreeing with the rails, so that the upper surface of the movable clamp as a whole is flush with the upper surface of the rail. In this manner the ends of the rails are preserved against being flattened and pounded by the wheels of passing trains.

From the above it will be apparent that a most efficient joint has been provided, and one in which by reason of the space between the sections 10 and 15 ordinary contraction and expansion of the rail-sections may take place.

Having thus described my invention, what I claim is—

1. The combination, with a cross-tie, of a metal plate spiked thereto, rails mounted thereon, a transverse fixed clamp conforming to the rails and integral with the plate and snugly conforming to and fitting the base, web, and under side of the head, at which latter point it terminates, and a movable clamp spiked to the plate at the opposite side of the rails and provided with a T-shaped opening having a rear inclined wall and a T-shaped clamping-block mounted in the opening and of a size slightly less than the same and having a rear inclined wall, the inner faces of the block and the clamp conforming to the contour of the rail and having their upper surfaces flush with the upper surface of the rails, substantially as specified.

2. The combination, with the cross-ties, the metal plate spiked thereto and provided with a transverse fixed flange snugly conforming to the base, web, and under portion of the head of the rail and terminating at its upper end under the head of the rail, of the rail-sections and a clamping-block spiked to the plate at that side of the sections opposite the fixed clamp and having its inner face snugly conforming to the contour of the rail throughout its height, the upper surface of the movable clamp being flush with the upper surface of the rail, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

HARLOW D. AVERA.

Witnesses:

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