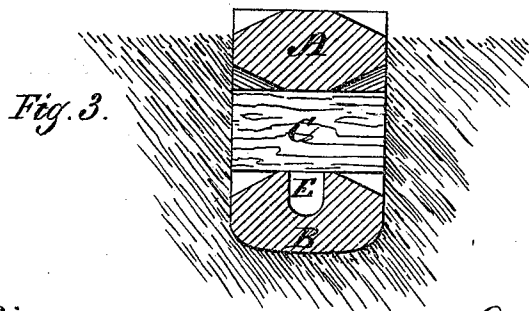
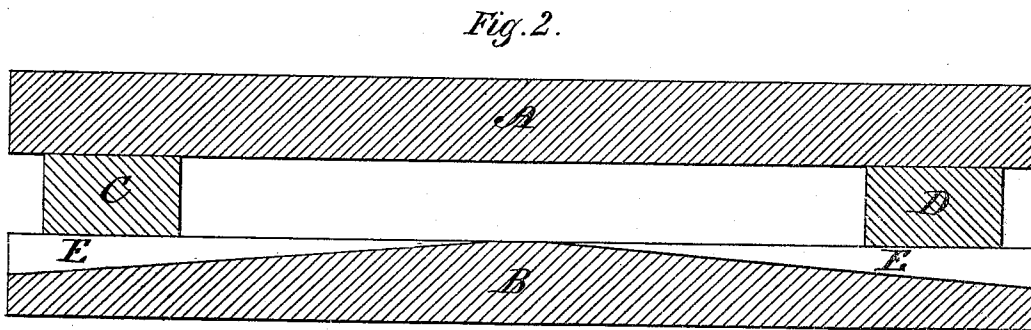
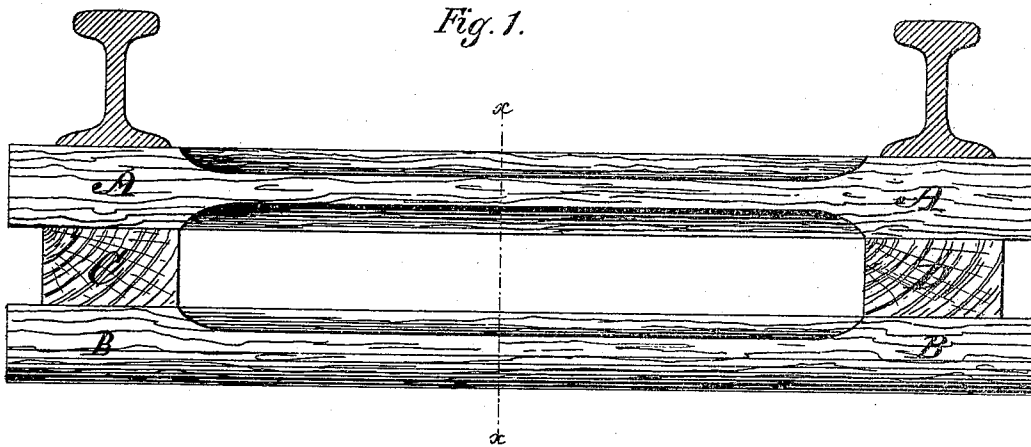


D. C. KELLAM.

Improvement in Railway Cross-Ties.

No. 132,966.

Patented Nov. 12, 1872.



Witnesses:

Chas. C. Upperman
P. A. Devine

Inventor:

Daniel C. Kellam.
By his Attorney.
T. H. Upperman.

UNITED STATES PATENT OFFICE.

DANIEL C. KELLAM, OF PONTIAC, MICHIGAN.

IMPROVEMENT IN RAILWAY CROSS-TIES.

Specification forming part of Letters Patent No. 132,966, dated November 12, 1872.

To all whom it may concern:

Be it known that I, DANIEL C. KELLAM, of Pontiac, in the county of Oakland and State of Michigan, have invented a certain new and useful Improvement in Railroad Cross-Ties, of which the following is a specification:

My invention consists in the construction of a tie of two pieces of timber laid horizontally with end-separating blocks, the grain of the timber of the latter being placed at right angles to that of the former, the lower horizontal timber being supplied with drainage-holes for carrying off rain, &c., while between the two the ballast is placed, whereby the position of the tie on the road-bed is rendered permanent and secure, as will be hereinafter described.

Figure 1 of the drawing represents a railroad-tie embracing my improvements; Fig. 2 is a longitudinal vertical section; and Fig. 3 is a transverse vertical section of the same.

A represents the upper, and B the lower timber of the tie. They are each about one-third the thickness of the ordinary solid tie, while the separating-blocks C D, at or near either end and beneath the point where the rails are laid, are of like width, and when joined together the tie is ready to be laid in position on the road-bed without subsequent dressing. These blocks C D are placed between the horizontal sections with the grain of the wood running at right angles to that of the said horizontal timbers for imparting greater strength and durability to the tie.

It will be seen by reference to the drawing that the lower side of the upper horizontal section A and the upper side of the section B are beveled from the outside toward the center. This construction is for the purpose of locking, as it were, the ties in position by a continuous bed of ballast, which latter is di-

rected by the inclines downward until it is perfectly solid on the road-bed, rendering it harder for the ties to be shaken from their position than when laid in the old way. Again, this construction of tie renders "buckling" almost impossible by reason of the interior strata of gravel and rock between the horizontal portions.

Another feature of my invention is obviating the loosening of the tie by rain, &c., settling on the road-bed and undermining its foundation. I provide an escape for it by constructing the lower section B with downwardly-oblique drainage-holes, E, as clearly shown in Figs. 2 and 3 of the drawing, down and through which the rain is conducted off from the bottom of the road-bed.

The timbers composing the tie are preserved by being immersed in any of the well-known antiseptic compounds, and are joined together by dowel-pins passing through them and the separating-blocks.

Having described my invention, I claim—

1. A railroad tie constructed of an upper and lower horizontal piece, A B, with separating-blocks C D at or near either end and beneath the point where the rails are laid, the said horizontal timbers being provided with inclined surfaces, as shown, for the purpose described.

2. In a railroad-tie, constructed as described, the lower timber B thereof provided with drainage-holes E for carrying off rain, &c., from the road-bed, substantially as described.

In testimony whereof I have hereunto signed my name.

DANIEL C. KELLAM.

Witnesses:

CHAS. E. UPPERMAN,
P. A. DEVINE.