

E. E. LEWIS.
 Railway Cross-Tie.

No. 198,464.

Patented Dec. 25, 1877.

Fig. 1.

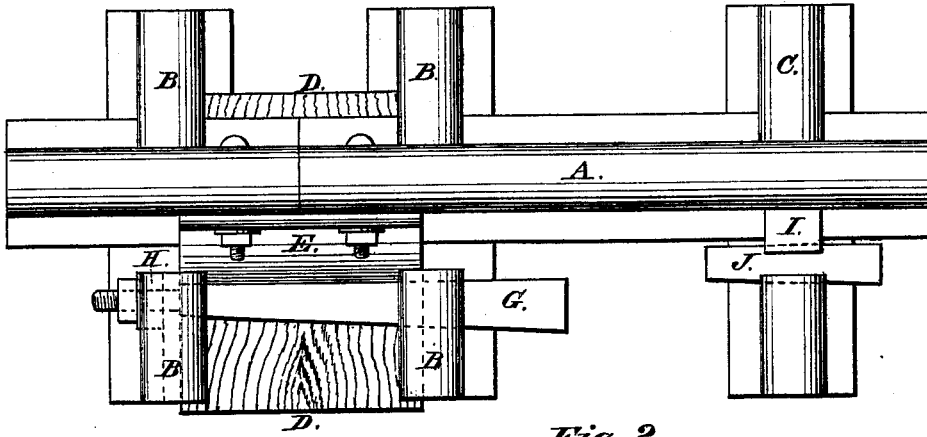


Fig. 2.

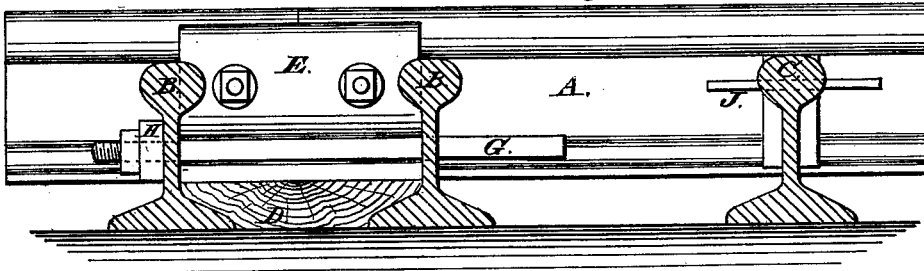


Fig. 4.

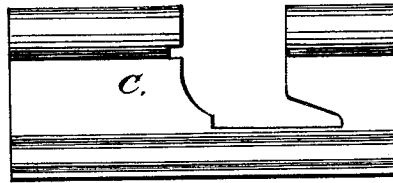


Fig. 3.

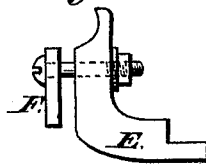


Fig. 5.



Witnesses:

John E. Lewis
 Charles Ketchum

Fig. 6.



Inventor.

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UNITED STATES PATENT OFFICE.

EBENEZER E. LEWIS, OF GENEVA, NEW YORK.

IMPROVEMENT IN RAILWAY CROSS-TIES.

Specification forming part of Letters Patent No. 198,464, dated December 25, 1877; application filed October 8, 1877.

To all whom it may concern:

Be it known that I, EBENEZER E. LEWIS, of Geneva, in the county of Ontario and State of New York, have invented a new and useful Improvement in Railroad Cross-Ties, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to make cross-ties out of railroad-rails that are worn out or unfit for use as rails, by cutting them in pieces of suitable length, and making in them rail-seats and places for side plates and keys, as fully shown in the accompanying drawings, in which—

Figure 1 is a top view; Fig. 2, a side view; Fig. 3, an end view of a side plate. Fig. 4 is a side view of one of the cross-ties, and Fig. 5 an end view of the brace for the tie that is placed under the middle of the rails. Fig. 6 is a front view of brace-block.

A is the ordinary iron or steel rail, to which the rail-seats in the cross-ties must be made to fit. B and B are cross-ties made of railroad-rails that are imperfect or worn out and unfit to use as rails, by cutting them in suitable lengths, and making in them rail-seats for the base of the rails, and places for the side plates and key, as represented in Figs. 1 and 2. These ties are made to be applied at the union of the rails.

C is a cross-tie, made in a similar manner with the rail-seats made in the same; but the place for the side plate and key is made for a shorter side plate, as shown in Figs. 1 and 5. This tie is intended for the middle of the rails.

D is a piece of wood made to fit upon the top of the base of the cross-ties, as shown in Fig. 2. Upon its upper surface a rail-seat is made across it for the base of the rail to rest in, and by which it is fastened and prevented from getting out of place. This piece D should extend from one rail to the other across the road.

E is a side plate for the outside of the rails, to be used at the union of the rails. It is made so that the lowest part will rest upon the piece D, and then made to fit the rail from the bottom to near the top of the rounded part. An

end view is shown in Fig. 3, and its position is shown in Figs. 1 and 2. The part that rests upon the piece D is rabbeted to receive the key G, and has two bolt-holes through it for bolts that hold it in place.

F is an auxiliary side plate, made rectangular in form, and made to fit the inside of the rail between the base and top part, and long enough to have two bolt-holes corresponding with the holes in plate E, for bolts that pass through both plates and the rails to hold them together.

G is an iron key that holds the parts firmly together. Its shape and position are shown in Figs. 1 and 2. The smallest end has a screw made on it for a nut with which to draw the key up tight. H is a thick washer placed on the key, between its nut and the cross-tie, to allow the nut to draw the key properly.

I is a side brace fitted to the side of the rail and seat in the cross-tie, and in the side next to the tie a key-seat is made for the key J, to hold it firmly in place. The lowest point is made forked to pass over each side of the vertical portion of the ties. An end view is shown in Fig. 5.

J is the key that holds the brace I in place, and thereby holds the rail and cross-tie firmly together. When it is firmly driven the small end is bent downward to keep it in place.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. Railroad cross-ties made of imperfect or worn railroad-rails, they having rail-seats for the rails A, and seats for the side plate E and key G made in them, as and for the purpose set forth.

2. The wooden piece D, side plate E, and key G, with its washer H, all constructed and applied substantially as and for the purpose specified.

3. The combination of the brace I and key J with the rail A and tie C, as herein shown and described.

EBENEZER E. LEWIS.

Witnesses:

JOHN L. LEWIS,
CHARLES KETCHUM.