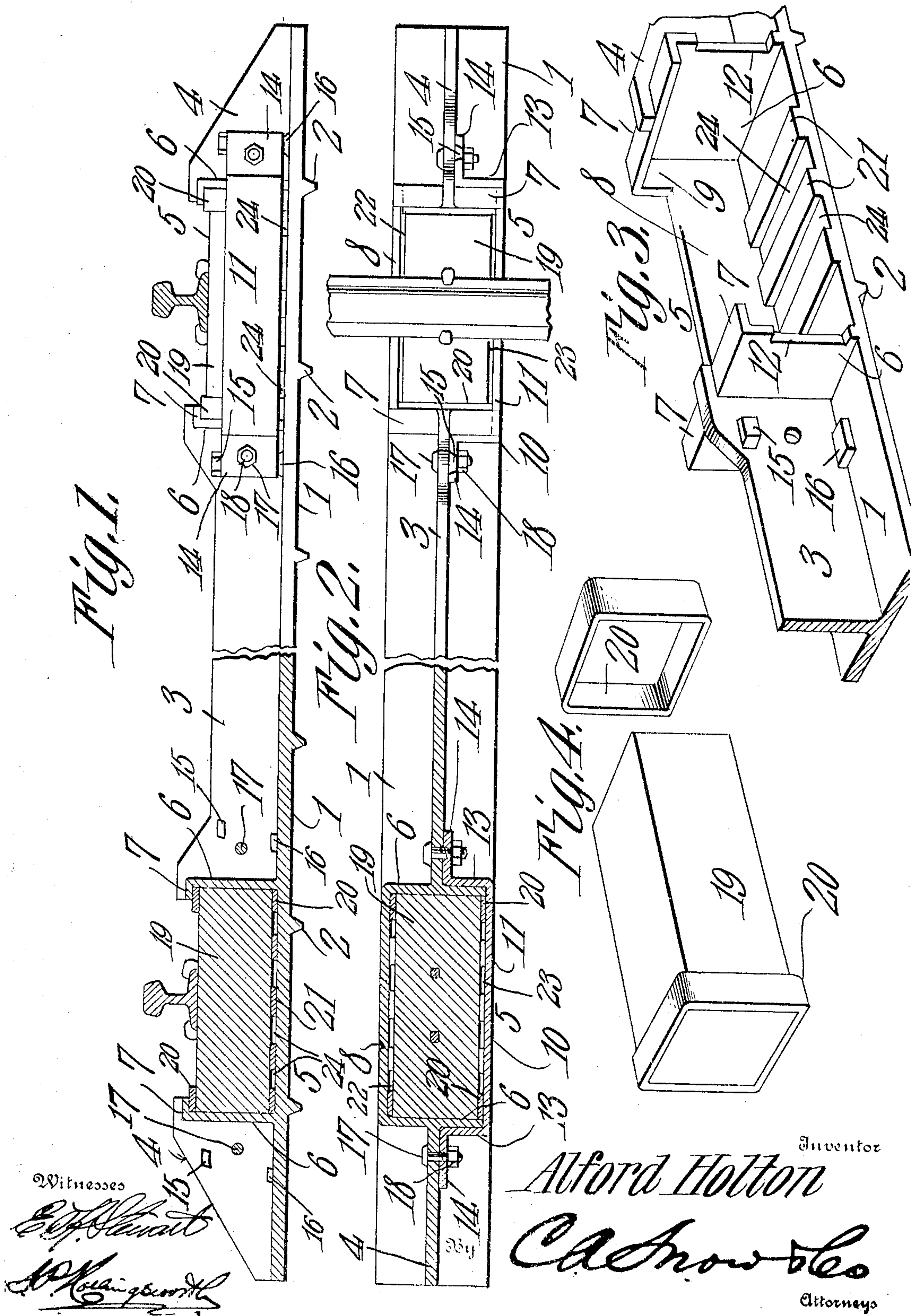


No. 887,395.

PATENTED MAY 12, 1908.

A. HOLTON.  
RAILROAD TIE.

APPLICATION FILED AUG. 7, 1907.





# UNITED STATES PATENT OFFICE.

ALFORD HOLTON, OF MILLERTON, PENNSYLVANIA.

## RAILROAD-TIE.

No. 887,395.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed August 7, 1907. Serial No. 387,524.

*To all whom it may concern:*

Be it known that I, ALFORD HOLTON, a citizen of the United States, residing at Millerton, in the county of Tioga and State of Pennsylvania, have invented a new and useful Railroad-Tie, of which the following is a specification.

This invention relates to metal cross ties for supporting railroad rails, the object of which is to provide an integral metal tie with a wooden block or other slightly yielding substance at each end, secured thereto, on which blocks the rails rest and to which they are fastened; and further, simple and easy means by which the block of slightly yielding substance may be removed from the cross-tie and another block inserted in its place at slight cost.

The cross tie designed for this purpose is preferably made of cast metal about as long as ordinary ties and comprises in general terms, a base plate having a flange rising vertically from its longitudinal center and equal in length to the base plate. Near each end of the flange is introduced an integrally formed box within which is placed a wooden block tightly filling the box and secured therein by means of a removable tie bar or strap closing the open side of the box. To these wooden blocks the rails are spiked in the well known manner used at the present time with wood ties.

With this and other objects in view the invention comprises certain novel combination, construction and arrangement of parts as will be hereinafter described and claimed.

In the accompanying drawing:—Figure 1 is a cross sectional view of a railroad track, the cross tie being shown in elevation on one side and in section on the other. Fig. 2 is a plan view of a rail and cross tie on one side and a horizontal section of a cross tie on the other. Fig. 3 is a perspective view of one end of a cross tie in skeleton illustrating its structure. Fig. 4 is a perspective view of the wooden block with a metal band on one end and a second band separated from the other end of the block, ready to be applied.

Similar reference numerals are used on all the figures to designate the same parts.

The numeral 1 indicates a preferably cast metal base plate of flat rectangular form and having a length about equal that of an ordinary tie. Crosswise of the under side of the base plate are a plurality of downward extending ribs 2 which serve to hold the cross

tie in position and prevent it moving endwise or creeping on curves and other places. In the longitudinal center of the base plate is a vertical flange 3 of equal length as the base plate and rising therefrom to a suitable height, the ends 4 of said flange being inclined downwardly. Equally spaced inwardly from each end of the tie is an integrally cast box 5 as wide as the base plate and somewhat higher than the flange between the boxes which latter interrupt the continuous length of the flange. The transverse centers of the boxes 5 are so placed with relation to each other that when the rails are fastened in place the distance between them will be the standard gage.

The boxes 5, which are alike, have each a length more than twice its width and three times its height. Its end walls 6 rise vertically and parallel, across the base plate, and each has a narrow inwardly overhanging flange 7. At one side of the base plate 1 is an integral vertical wall 8 of less height than the end wall 6 except at its ends where said ends connect with the flanges 7 by upward extensions 9. The top of the box is always open but the opposite side is partly closed when the cross tie is in use. The closure consists of an angularly shaped metal tie bar or strap of less width than the height of the box 5 and having a straight portion 11 as long as the external length of the box 5 which fits into a notch 12 in the edge of each end wall 6 of the box. The tie bar or strap 10 has an angular portion 13 at each end which angular portions lie closely against the end walls 6 of the box until they reach the vertical flange 3, where the ends 14 turn outwardly at a right angle for a short distance and lie close against said vertical flange. The end portions 14 when the tie bar is put in place pass between two lugs 15 and 16 cast on the flange 3 and are fastened in place by a bolt 17 on each side passing through the flange and the end portion 14 and secured by a nut 18.

Within each box 5 is fitted a solid rectangular wood block 19, each end protected by a metal band 20 that projects slightly, or about the thickness of the band, above the block. Integral with the base plate 1 and within the box 5 are a plurality of ribs 21 extending transversely across the base 1 in parallel lines equally spaced one from another. When the block is placed within the box the tie bar or strap is removed and the



block driven in from that side until it can be driven no further. In this position, the end bands bear at their sides against the wall 8 and the inner side of the tie band 10. The bottom of the bands rest on the base plate and the top of the bands rest against the underside of the overhanging flanges 7. The tie band is now placed in position and fastened by the bolts 17 and nuts 18, thus holding the block firmly and immovably in position. It may be noted here that because the end bands on the block 19 project beyond the block on all sides, a space 22 is formed between the block and the fixed wall 8 of the box 5; a similar space 23 on the opposite side of the block and a plurality of spaces 24 at the bottom between the ribs and the end bands 21. Any water entering the box will immediately drain out under the tie band 10, or if desired this space may be filled with some substance such as tar. Because of the depressed or low wall 8, which is about one inch below the block, there is no danger of the rail coming in contact with any metal part of the tie. The rails are placed on the blocks or chairs 19, and after gaging them, they are fastened to the chairs by spikes in a well known manner.

If at any time a block becomes defective and fails to hold the spikes, or for some other cause it is found necessary to remove it, this can be done very easily. The tie bar 10 is removed, and the block withdrawn from the box after first pulling out the spikes which hold the rail in place. The end bands are then drawn off the old block and placed on the new one, should there be no blocks already equipped. The block is then driven in place, the tie band applied and the nuts and bolts fastening it screwed up as tightly as possible.

A railroad cross tie made after the above plan is strong, durable and gives the rails a slightly yielding base which is a desideration much sought after and here presented in a cheap and renewable form.

Having thus described the invention, what is claimed is:—

1. A railroad cross-tie comprising a metal structure having near each end a metal box

with an open side and an open top, a block of slightly yielding material in each of said boxes on which the rails rest and to which they are spiked, a removable closure for the open side of each of said boxes to secure said blocks in place, and means on said blocks for keeping their sides out of contact with the sides and bottoms of said boxes.

2. A railroad cross tie comprising an integrally formed base plate, central flange and a box near each end of said tie, a wooden block closely fitting at its ends each of said boxes on which blocks the rails rest and to which they are spiked, each of said boxes having vertical walls and open on its top and on one side and provided with flanges at the top of its end walls to overhang the ends of said blocks, and a tie band covering the side opening of each box bolted to said central flange.

3. A railroad tie comprising a flat plate, a rib rising centrally thereof, a box near each end of said plate, open at the top and one side, a wooden block having a metal band on each end projecting beyond the faces of the block, said banded block fitting snugly within the box and forming a space between said block and the sides of the box, and a removable box side having angular ends to bear on the central flange and means for fastening said parts in place.

4. A railroad tie comprising a base plate, a central upstanding flange extending from end to end of said base plate but interrupted near each end by a box, the whole being integral, each of said boxes having a fixed side and two ends, a flange overhanging each end, ribs extending across the bottom of the box, and a wooden block with a metal band on each end fitting said box snugly, and a removable side fitting closely against said block and fastened to said upstanding flange, said blocks adapted to support the rails and be spiked thereto.

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

ALFORD HOLTON.

Witnesses:

J. M. FROST,

A. R. KELLEY.