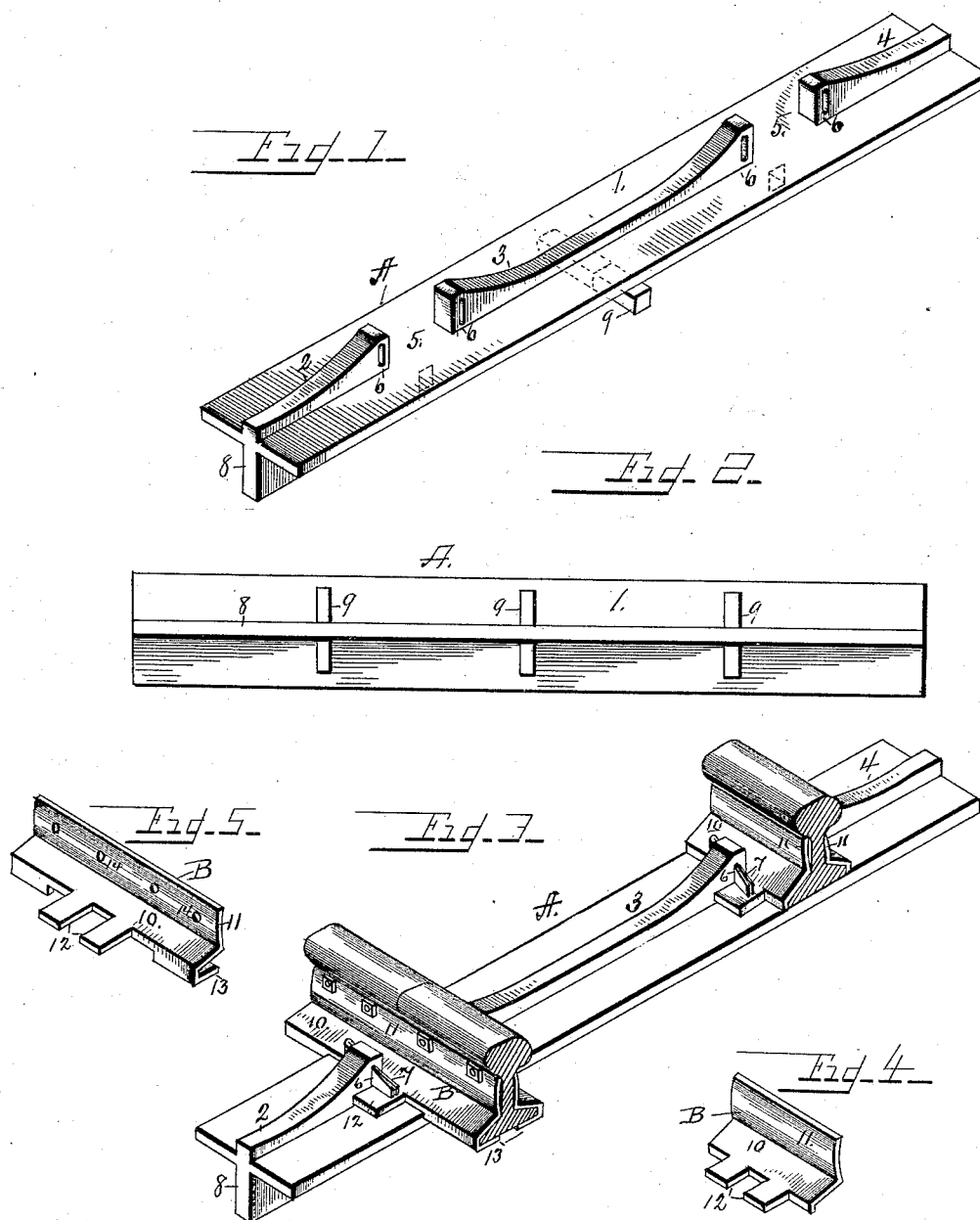


(No Model.)

B. BOYER.  
METALLIC RAILWAY TIE AND CHAIR.

No. 418,158.

Patented Dec. 31, 1889.



Witnesses

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# UNITED STATES PATENT OFFICE.

BASSLER BOYER, OF LEBANON, PENNSYLVANIA.

## METALLIC RAILWAY TIE AND CHAIR.

SPECIFICATION forming part of Letters Patent No. 418,158, dated December 31, 1889.

Application filed March 8, 1889. Serial No. 302,468. (No model.)

*To all whom it may concern:*

Be it known that I, BASSLER BOYER, a citizen of the United States of America, residing at Lebanon, in the county of Lebanon and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Railway Ties and Chairs, of which the following is a specification.

My invention has relation to improvements in metallic railway ties and chairs, the tie being of that particular construction generally shown and described in United States Letters Patent No. 379,612, dated March 20, A. D. 1888, for improvements in metallic railway ties and chairs, my improvements thereon consisting in adapting the tie therein described to receive fish-plates and chairs, as hereinafter described, and in the further improvement of providing the depending vertical flange on the bottom of the tie with transversely-arranged bars or studs, whereby the tie is held in its bed without liability of movement. These improvements, together with my complete invention, will be hereinafter more specifically described, and will be particularly set forth in the claims.

I have fully illustrated my invention in the accompanying drawings, wherein—

Figure 1 is a perspective of the tie. Fig. 2 is a bottom view thereof. Fig. 3 is a view showing the tie equipped and the rails held by my improved chairs. Fig. 4 is a view of the chair removed from the rail. Fig. 5 is a view of the chair as applicable to holding the joints of the rails.

A denotes the tie, which consists of a substantial plate 1, adapted to rest flat and firm in its seat on the bed of the track, and formed on the top with centrally-arranged flanges 2 3 4 and rail-seats 5. In the ends of the flanges next to the rail-seats are formed bolt or pin holes 6, to receive a proper holding-bolt 7, which may have the ends split and spread to prevent removal by any of the agencies to which subjected. The central depending flange 8 on the bottom of the tie has cast thereon or fixed therein one or more lugs or projections 9, extending from both sides to about the edge of the body of tie. These lugs are located substantially midway of the vertical faces of the depending flange, and may

consist of stout pins or short bars driven through the holes in the flange made for that purpose. The object is to prevent the tie from creeping or moving in the direction of its length after being tamped in the road-bed.

B designates my improved chair, which consists of a metal plate of the usual substantialness formed with a body-piece 10, to fit the bed-flange or foot of the rail, a vertical flange 11, struck up from the body and formed to set against the stem of the rail, with the top edge under the flange of the top part of the rail, and having the ears or lugs 12, projected from the body-piece 10, arranged to straddle the flanges on the top face of the tie, substantially as shown in Fig. 3 of the drawings.

The chair shown in Fig. 4 has the fundamental elements and requisites of chairs to be used along the rails to hold them on the ties, and also to fish and support the meeting ends of the rails.

In Fig. 5 the chair is shown as especially adapted to the meeting ends of the rails. In this the chair is made longer than the intermediate chairs shown in Fig. 4, and is formed with struck-under flanges 13, to set under the bottom flanges of the rails, as shown in Fig. 3.

To fasten the flange 11 to the meeting rails, it is provided with bolt-holes 14, through which and to the web of the rails bolts are projected and secured, as usual.

To apply my improved chairs, all that is necessary is to lay them on the tie against the rail, with the lugs straddling the flanges, and then drive the holding-pin home over the lugs, and, in case of the instance at the meeting ends of the rails, bolting the flanges to the stem of the rails. The chairs, being in place, will hold the rails as long as intact. The chairs may be removed by knocking out the fastening-bolt and lifting them from their seats.

What I claim is—

1. A metallic railway-tie consisting of a plate having vertical flanges formed thereon and formed with rail-seats, and a depending flange on the bottom of the plate, provided with studs or bars projecting from the sides of the flange midway of the vertical height, substantially as described.

2. The railway tie and chair herein de-

scribed, consisting of the metallic plate A, formed with a vertical projecting flange having rail-seats formed therein, the fastening-plates B, formed to set over and under the  
5 flange of the rail and against the stem thereof, and having rearwardly-projecting extensions to straddle the flanges of the tie, fastening-pins through the flanges of the tie to set on the extensions of the chairs, and bolts  
10 to hold the chairs to the stem of the rail, all substantially as described.

3. The rail tie and chair herein described, consisting of a plate formed with a vertical flange having rail-seats therein, chairs formed

to set over the flanges of the rails, and rear- 15  
wardly-extending lugs formed to straddle the vertical flange of the tie, and struck-under flanges to engage the bottom of the rails, and fastening-bolts to engage the rearwardly-extending lugs of the chairs, substantially as 20 described.

In witness whereof I have hereunto set my hand in the presence of two attesting witnesses.

BASSLER BOYER.

Attest:

JOHN R. RODEARMEL,  
TOBIAS REINOEHL.