(No Model.)

S. B. WRIGHT.

METALLIC RAILWAY TIE.

No. 280,110. Patented June 26, 1883.

Fig. 1.

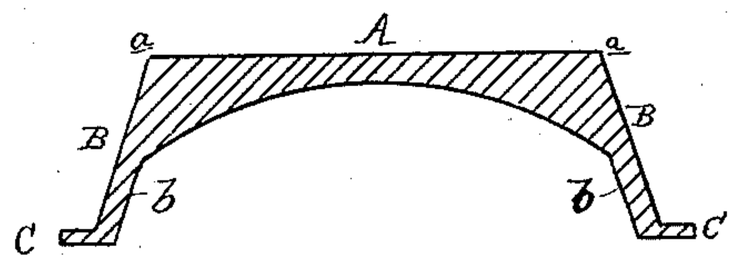
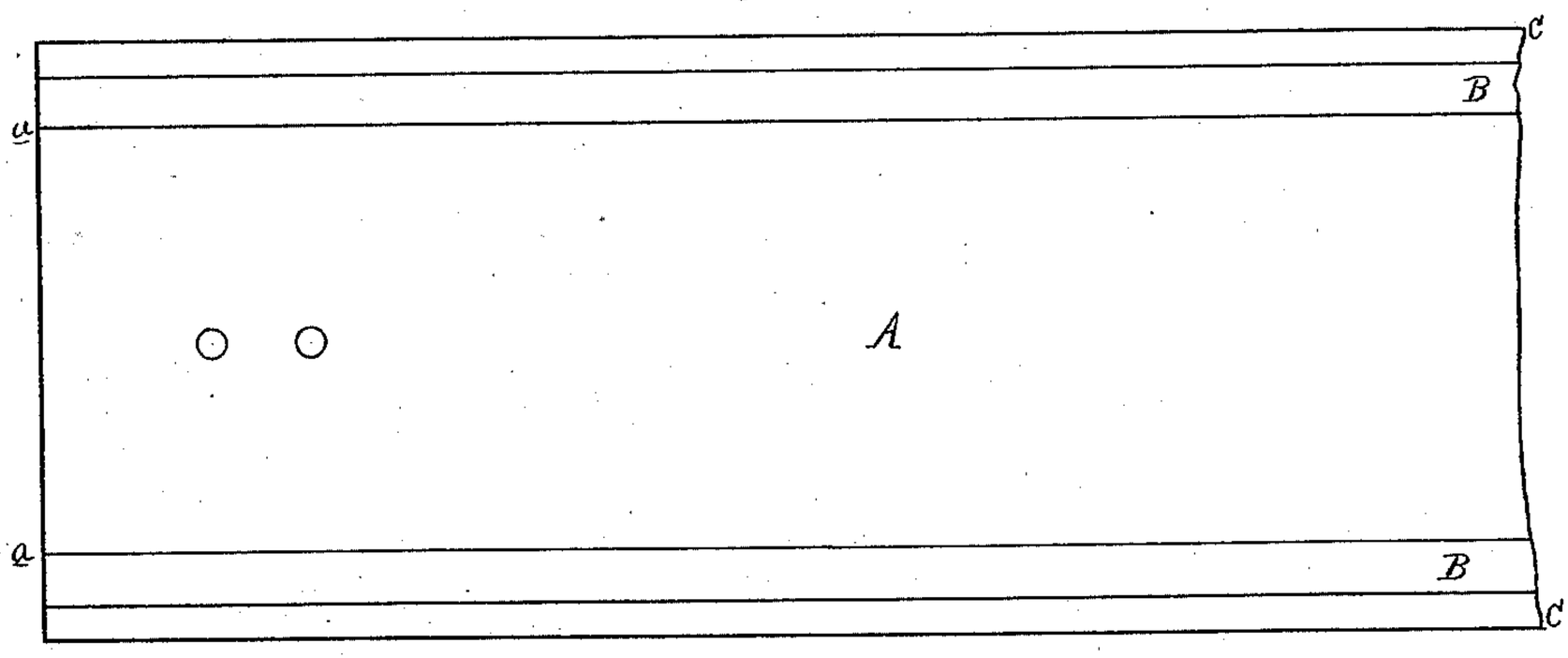


Fig 2.



Attest.
H. C. Dwyer
E. W. Anderson

Inventor:
Sidney B. Wright.
By Thos. A. Dwyer
Atty.

UNITED STATES PATENT OFFICE.

SIDNEY B. WRIGHT, OF WYANDOTTE, MICHIGAN.

METALLIC RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 280,110, dated June 26, 1883.

Application filed December 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY B. WRIGHT, of Wyandotte, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Metallic Railway-Ties; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

The nature of this invention relates to certain new and useful improvements in the construction of metallic ties for railway purposes, by means of which the necessity of any base-plates is avoided, and the tie embedded in the earth being so constructed as to thoroughly compact the earth under its entire length.

The invention is fully illustrated in the accompanying drawings, in which Figure 1 is a cross-section of my improved tie, and Fig. 2 a top plan view.

In the accompanying drawings, which form a part of this specification, A represents the top of my improved tie; B, the two sides thereof, standing at obtuse angles to the plane of the top, and terminating in flanges C, upon a parallel plane to that of the top. This describes the outer form of the tie. The inner side of the tie is formed in the shape of an arch by thickening in curved lines at a point underneath the upper corners, *a;* from the lower surface of the flanges C to a point distant therefrom about one-half the height of the tie a portion, *b*, runs parallel with the outer surface of the sides B. This portion *b*, being inclined in opposite directions, serves to press the earth inwardly before the action of the arch accrues, and to this feature I attach especial importance. A tie thus constructed presents bearing-surfaces upon the under side of the flanges C, and the earth between the walls B, in the progress of the tie into the ground, gradually compacts such earth until the lower end of the curved corners is reached, when the earth is, by such curvature, forced toward the center of the tie and more thoroughly compacted there by these means than at any other point, this point being the one immediately above which the rail and its superincumbent weight are secured. The thickening of the corners by means of the curvature already described gives greater strength to the side walls, and prevents them, under any circumstances of extraordinary weight being superimposed upon the top of each, from spreading apart, as such thickening, in addition to the function already described of compacting the earth, forms a stiffening for the walls in holding them in their relation to the top of the device. In the top of this tie, and at proper distances from each end thereof, a hole or holes is punched through said top, to receive the bolt or bolts or other means of fastening by means of which the rail is secured to the face of the tie.

In the operation of sinking the tie into the ground, the bottom flanges will be found to be the first points of resistance. In the continuance of the operation, the inwardly-sloping side walls will be the next point of resistance, compacting the earth by forcing the same laterally, as when a wedge is driven into the ground, until the curvature is reached, when the earth will be forced both laterally between the side walls and upwardly toward the center of the tie, thereby forming a very solid bed for the tie to rest upon.

I am aware of English Patent No. 1,159 of 1868, in which the construction shown approaches the general form of my device; but the features of importance in my invention are entirely lacking. These features are comprised in the construction whereby the point of junction between the inclines *b* and the arch are directly in line with the corners or edges *a*. The object of these features in connection with the width of the sides B is to allow the device to be forced into the earth until the arch comes into operation, without the danger of breaking the sides of the device; and it will be observed that as soon as the arch engages the earth the device at that point is greatly thickened or strengthened to resist the strain.

What I claim as my invention is—

The metallic tie for railway purposes herein described, consisting of the body A, having sides B, with flanges C, the body A having an arch the outer edges of which are in line with the edges *a*, and the sides B having inner parallel surfaces which form a junction with the arch, and the sides B being arranged at such obtuse angles with the body as to strengthen the sides by the formation of the arch, as specified.

SIDNEY B. WRIGHT.

Witnesses:
H. S. SPRAGUE,
E. W. ANDREWS.