

(No Model.)

J. E. BILLUPS.
CROSSING FOR RAILWAYS AND TRAMWAYS.

No. 510,399.

Patented Dec. 12, 1893.

Fig-1^a

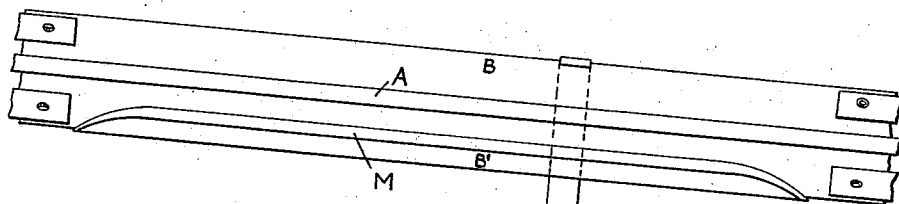


Fig-2

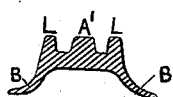


Fig-1

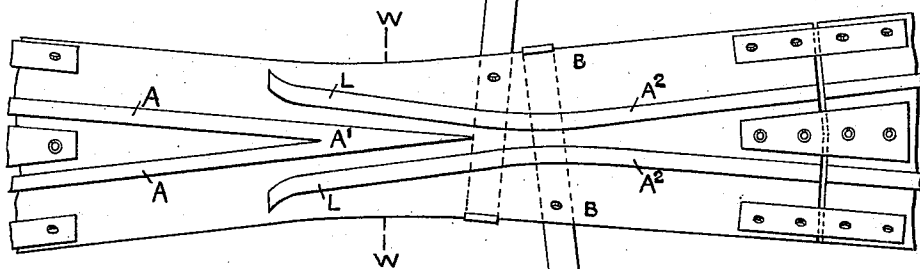
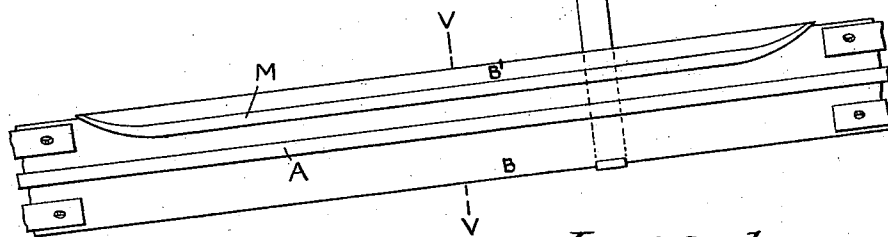


Fig-3



Fig-1^b



Witnesses:
E. B. Bolton
E. H. Sturtevant.

Inventor:
Jonathan Edwin Billups
By *Richard A. [Signature]*
his Attorneys.

UNITED STATES PATENT OFFICE.

JONATHAN E. BILLUPS, OF CARDIFF, ENGLAND.

CROSSING FOR RAILWAYS AND TRAMWAYS.

SPECIFICATION forming part of Letters Patent No. 510,399, dated December 12, 1893.

Application filed May 9, 1893. Serial No. 473,630. (No model.) Patented in England December 1, 1890, No. 19,575; in Germany September 3, 1891, No. 67,225; in Belgium September 7, 1891, No. 96,300; in South African Republic (Transvaal) December 11, 1891, No. 306; in Cape Colony December 29, 1891, No. 728; in France March 10, 1892, No. 220,038, and in Argentine Republic June 10, 1892, No. 1,162.

To all whom it may concern:

Be it known that I, JONATHAN EDWIN BILLUPS, a subject of the Queen of Great Britain and Ireland, and a resident of Cardiff, in the county of Glamorgan, Wales, England, have invented certain new and useful Improvements in Crossings for Railways and Tramways, (for which I have obtained patents in the following countries, viz: Great Britain, No. 19,575, bearing date December 1, 1890; France, No. 220,038, bearing date March 10, 1892; Belgium, No. 96,300, bearing date September 7, 1891; Germany, No. 67,225, bearing date September 3, 1891; Cape Colony, No. 728, bearing date December 29, 1891; South African Republic, (Transvaal,) No. 306, bearing date December 11, 1891, and Argentine Republic, No. 1,162, bearing date June 10, 1892,) of which the following is a specification.

The object of my invention is the construction of an improved form of crossing to be employed with the "Barlow" and similar sections of rail. The "Barlow" and similar sections of rail require no sleepers, forming in themselves a continuous sleeper and rail combined, and for this reason are particularly applicable for use in hot climates and for the construction of railways through wild and thinly populated country. Hitherto the crossings used with such rails have been made of a different section, which has formed an objection to their use, but by the employment of my invention this difficulty is overcome.

Referring to the drawings, which form part of this specification, Figures 1, 1^a and 1^b are a plan, showing my method of constructing a crossing for a "Barlow" rail. Figs. 2 and 3 are cross-sections through W W and V V respectively in Fig. 1.

The said improved crossing consists of a set of three steel castings, made to match the section of the rail.

The center casting shown in Fig. 1 is narrow in the center and spreads outward toward each end to the required width for effecting a junction with two rails. At one end it is cast with two rail heads A A which unite in a point A' and at the other end with two heads

A² A², which when they meet the point A' diverge into wing rails L L. Fig. 2 is a cross-section through the said point and wing rails, B B being the curved side flanges, similar to those employed on the rail itself.

The side castings shown in Figs. 1^a and 1^b are similar to each other and consist of a casting having a rail head A and a guard rail M. A cross-section through the center is shown in Fig. 3. The curved side flange B is similar to that of the general rail section, but the other flange B' is made vertical as shown. At the ends of the casting, however, this vertical flange merges into a curved form as shown, so that the casting becomes of correct shape for joining on to the rail. Any suitable kind of fastening may be employed, but by preference I use my improved fastening consisting of specially shaped plates, secured by hollow slotted bolts cut with right and left-hand threads and subsequently plugged.

In place of castings, the three parts of the crossing may, if preferred, be made of wrought iron, or steel, the necessary shape being obtained partly by rolling and partly by machining. These castings or forgings, by reason of their shape, are, like the rails, self supporting on the ballast and require no sleepers. The gage of the crossing is shown as preserved by means of my improved ties *b b*.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a railway or tramway, a crossing consisting of a center casting or forging formed in one piece with curved side supporting flanges B B, rail heads A A at one end, converging to a point A', rail heads A² A² at the other end, diverging into wing rails L L, and two side castings or forgings each formed in one piece, with a curved side flange B, a vertical flange B', merging at the ends into a curved flange, a rail head A, and guard rail M, all three said castings or forgings terminating in a section similar to that of the rail to be united thereto, substantially as described.

2. The combination with a "Barlow" or similar section of rail, of a crossing consisting of

a center casting or forging formed in one piece
with curved side supporting flanges B B, rail
heads A A at one end, converging to a point
A', rail heads A² A² at the other end, diverg-
5 ing into wing rails L L, and two side castings
or forgings each formed in one piece with a
curved side flange B, a vertical flange B',
merging at the ends into a curved flange, a
rail head A and guard rail M, all three said
10 castings or forgings terminating in a section,

similar to that of the rail to be united there-
to, substantially as described.

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

J. E. BILLUPS.

Witnesses:

THOMAS P. EDMUNDS,
14 Talbot Street, Cardiff.
ALFRED W. DASLEPER,
Solr., Cardiff.