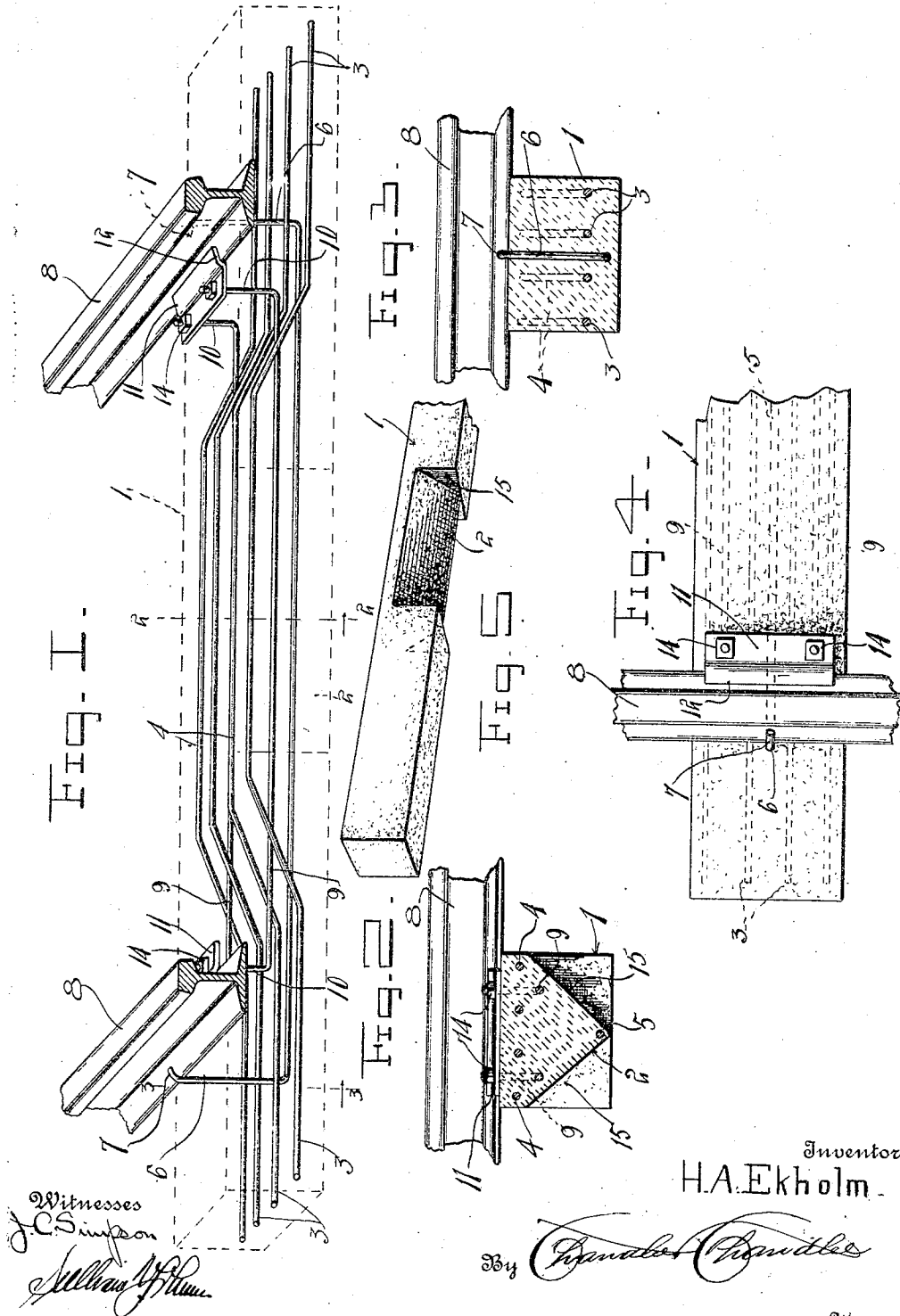


H. A. EKHOLM.
RAILWAY TIE.
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1,058,163.

Patented Apr. 8, 1913.



UNITED STATES PATENT OFFICE.

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RAILWAY-TIE.

1,058,163.

Specification of Letters Patent.

Patented Apr. 8, 1913.

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To all whom it may concern:

Be it known that I, HELMER A. EKHOLM, a citizen of the United States, residing at Marmarth, in the county of Billings, State of North Dakota, have invented certain new and useful Improvements in Railway-Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in railway ties formed from cement or like material.

A further object of the invention is to provide a tie of this character with metal reinforcing members, the same being applied during the molding process, and being arranged so as to impart extra strength to the tie, and to prevent any undue vibration of the same.

With these and other objects in view, the invention consists in certain novel features of construction, combination and arrangement of parts as will be hereinafter fully described and claimed.

In the drawing: Figure 1 is a perspective view of the tie, the same being shown in dotted lines and the reinforcing members, rails and the securing means therefor being shown in full line. Fig. 2 is a sectional view on line 2—2 of Fig. 1. Fig. 3 is a similar view on line 3—3 of Fig. 1. Fig. 4 is a fragmentary top plan view of a portion of the tie. Fig. 5 is a perspective view of the tie.

Referring to the drawing, the numeral 1 designates a tie, the same being formed from cement or the like, and is substantially rectangular in shape. The side edges of the central portion of the tie are beveled inwardly, as indicated at 2, while the remaining portion of the tie is rectangular in cross section. Embedded in the tie 1 are a plurality of reinforcing members 3, the ends of which stop at a point short of the ends of the tie and are provided at their centers with arches 4 which assume a position near the upper central surface of the tie. The reinforcing members 4 are arranged in spaced parallel relation throughout their length, the number of which may be varied as desired. A substantially U-shaped reinforcing rod 5 is employed, the same being embedded in the tie 1 and is positioned near

the lower surface thereof, the legs 6 of which have their upper ends projected slightly above the upper surface of the tie, and are bent toward each other to form hooks 7 for engaging the outer flanges of the rails 8, said hooks being projected from the tie a short distance from the ends thereof. Passing through the central portion of the tie 1 are a pair of reinforcing rods 9, the same being also substantially U-shaped, and have their leg portions 10 threaded at the upper ends and projected slightly above the upper surface of said tie. Rail attaching plates 11 are provided, and are formed with beveled outer edges 12 for engaging the inner flanges of the rails 8, said plates having a pair of perforations 13 for receiving the threaded ends of the legs 10 of the rods 9. Clamping nuts 14 are placed upon the threaded ends of the legs 10, and may be manipulated to either firmly clamp the plates 11 in position to hold the rails 8 securely, or may be adjusted to release the plates when it is desired to remove a rail or rails.

By providing the tie 1 with the inwardly beveled side edges as shown at 2, the same is prevented from becoming "center bound", the weight being equally distributed near the ends of the tie, thus reducing vibration to a minimum. The beveled side edges of the tie will readily take into the road ballast, and the angular faces 15 produced thereby will prevent lateral movement of the tie. It will be noted from this construction that the rods 5 and 9 are arranged in tying relation of the arches of the rods 3, thereby greatly strengthening the tie at its central portion.

What is claimed is:

A railway tie comprising a plastic body in which are embedded a plurality of metal rods extending longitudinally from end to end within the body with their intermediate portions arched and their end portions in a common plane parallel with the upper face of the body and a series of additional metal rods extending longitudinally within the body and alternating with the first named rods and extending beyond the arches of the latter, the last named rods including a middle rod having its end portions extended vertically beyond the arches with its extremities turned toward each other and

a rod at each side of the middle rod having its end portions extending upwardly between the arches and the upturned end portion of the corresponding middle rod having
5 their extremities threaded, said additional series of metal rods being in tying relation to the arches.

In testimony whereof, I affix my signature, in presence of two witnesses.

HELMER A. EKHOLM.

Witnesses:

J. R. CRIGER,

J. F. DEIME.