No. 609,123. Patented Aug. 16, 1898.

H. A. SAATHOFF.

METALLIC RAILWAY TIE.

(Application filed May 29, 1897,)

(No Model.)

Fig. 1

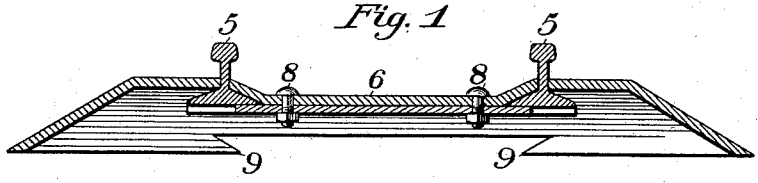


Fig. 2.

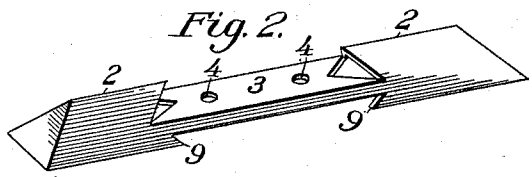
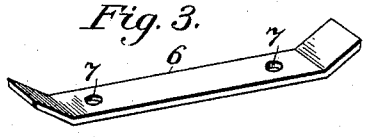


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

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METALLIC RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 609,123, dated August 16, 1898.

Application filed May 29, 1897. Serial No. 638,699. (No model.)

To all whom it may concern:

Be it known that I, HARM A. SAATHOFF, a citizen of the United States, residing at Menlo, in the county of Sheridan and State of Kansas, have invented certain new and useful Improvements in Metallic 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, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to new and useful improvements in metallic railway-ties; and it consists in the construction and arrangement of parts, as hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide a railway-tie of the character set forth that shall be cheap and simple of construction and one which has undercut portions for engagement with the outer flanges of T-rails, said tie being so constructed that a securing-plate may be bolted upon its upper face for holding the flanges upon the inner sides of said rails, which object is attained by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section through a railway-tie as made in accordance with my invention. Fig. 2 is a general perspective view of the tie, the rails being removed. Fig. 3 is an enlarged perspective of the securing-plate.

My improved tie is preferably stamped from sheet-steel for cheapness and lightness of construction, the ends thereof being raised so as to form ridges 2 2. The outer ends of said ridges gradually slope down, as shown in Fig. 2, until they meet the base-lines of the sides. The inner ends of said ridges are undercut at such an angle as to snugly fit the outer flange of the common T-rail.

The central portion of the tie is flattened at 3, as clearly shown in Fig. 2, and provided with apertures 4 4 for a purpose hereinafter referred to.

The distance between the rails 5 5 when resting upon portion 3 of the tie with their outer flanges snugly fitted in the undercut of ridges 2 is such as to allow the flange of car-wheels (not shown) to enter therebetween.

6 represents the securing-plate, which has its ends bent upward at such angles as to fit upon the flanges of the rails at the inner sides thereof. Said plate 6 is provided with perforations 7 7, which are in such position as to register with apertures 4 4 of the tie, and said plate is adapted to be secured upon said tie by passing bolts 8 8 through apertures 4 and 7, said bolts receiving suitable nuts upon their lower threaded ends. It will be seen that by thus locking the rails the gage or distance therebetween may be perfectly maintained.

It will thus be seen by reference to Fig. 2 that the ends of the tie extend downward below its main portion, and the inner extremities of said ends are cut in, so as to form prongs 9, for a purpose hereinafter referred to.

Before the tie is pressed into the form shown the flat metal sheet of which it is composed lies in a plane with the central portion 3, and as the ridges 2 are forced upward V-shaped cuts are made at their inner ends, one side of each cut being raised to form the undercut end above referred to. Thus it will be obvious that the tie may be made by a single operation.

It will be understood that as this improved tie is laid upon a road-bed and pressure applied to its upper side the soil or material from such bed will have a tendency to crowd inward and upward as it sinks and not outward therefrom. Any vibration of the rails secured upon this improved tie would have a tendency to pack the road-bed thereunder. It will also be seen that by reason of the direction in which the size of the tie extends transverse movement would be impossible, as also would any longitudinal movement on account of prongs 9 9, which are so formed as to securely hold the tie from such movement in either direction.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A railway-tie formed of sheet-steel, having its ends raised centrally to an apex, the inner extremities of said ends being undercut so as to snugly fit upon the flanges of the outer sides of rails 5, the securing-plate 6 having its ends raised at such an angle as to bear upon the inner flanges of said rails, said plate

adapted to be bolted upon the upper face of said tie, substantially as shown and described.

2. A railway-tie formed of sheet metal, having its ends raised centrally to an apex, the inner extremities of said ends being undercut so as to snugly fit upon the flanges at the outer sides of rails 5, the lower sides of the ends of said tie extending below its main portion and so cut as to form inwardly-projecting prongs 9, the securing-plate 6 having its ends raised, the main portions of said tie and securing-plate being provided with apertures which are adapted to register, and the bolts and nuts for binding said plate upon said tie, all substantially as and for the purpose set forth.

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

HARM A. SAATHOFF.

Witnesses:
H. L. KORB,
GROVER WALKER.