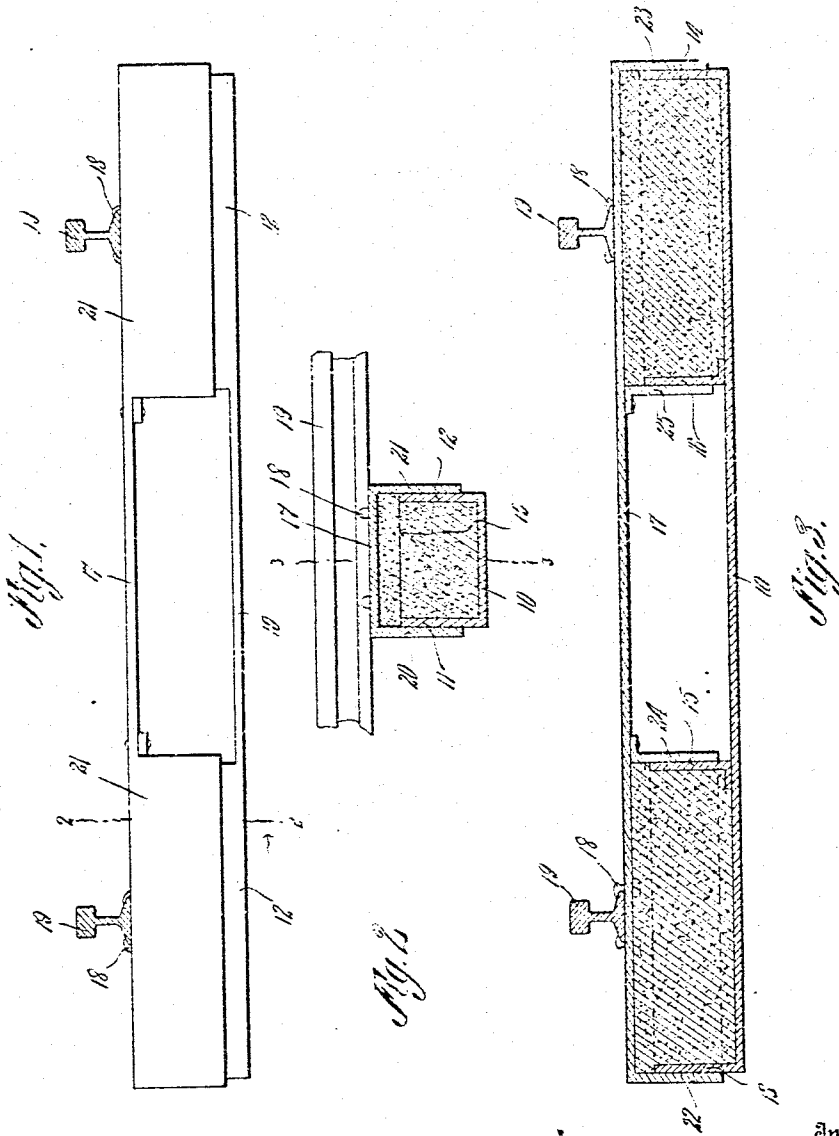


C. E. HIGHTBARGER.
RAILWAY TIE.
APPLICATION FILED JUNE 11, 1909.

950,327.

Patented Feb. 22, 1910.

2 SHEETS—SHEET 1.



Witnesses
J. H. Crawford
C. N. Woodward

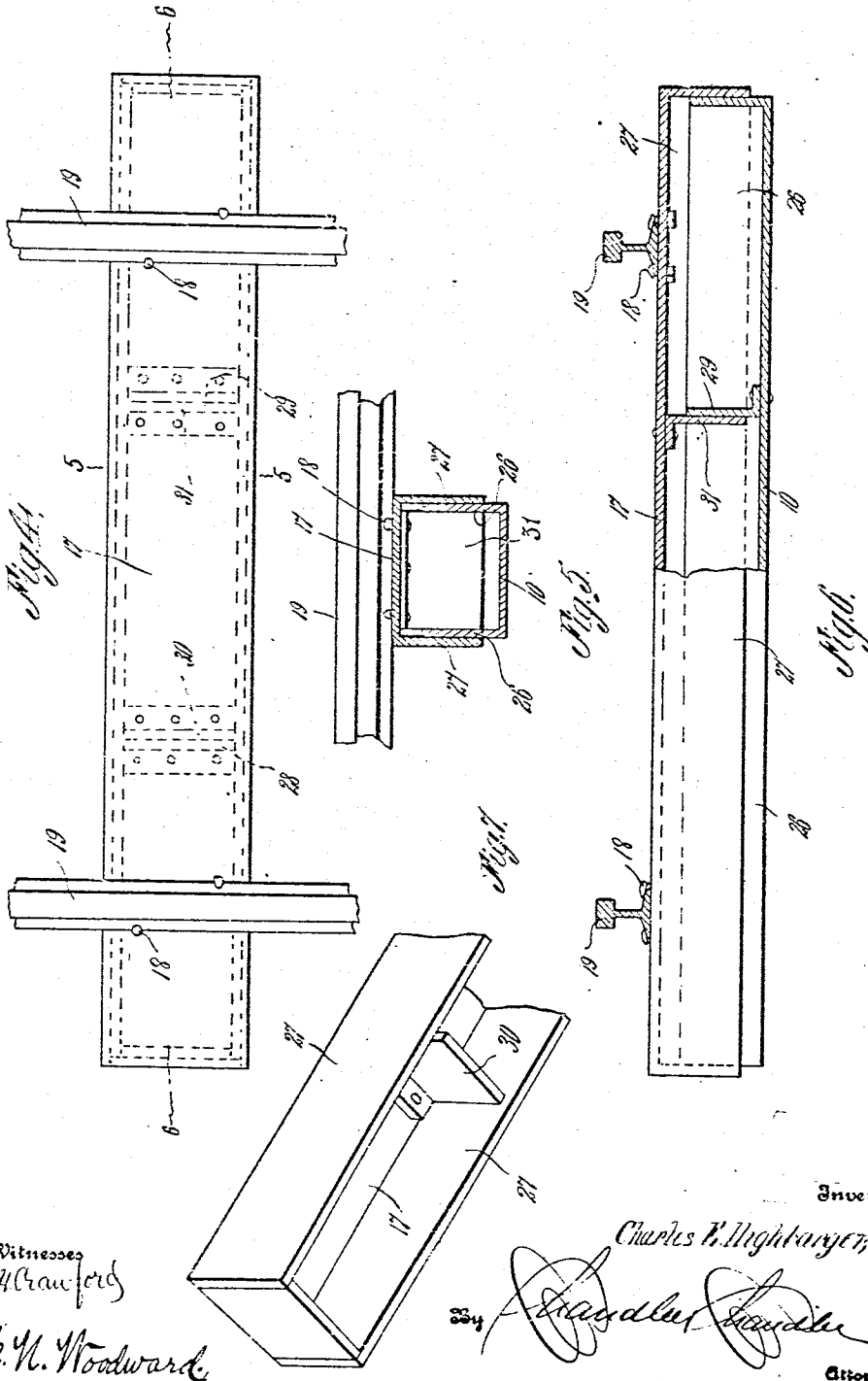
Inventor
Charles E. Hightbarger,
[Signature]
Attorney

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Inventor
Charles E. Highbarger
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UNITED STATES PATENT OFFICE.

CHARLES E. HIGHBARGER, OF GREAT FALLS, MONTANA.

RAILWAY-TIE.

950,327.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed June 11, 1909. Serial No. 501,589.

To all whom it may concern:

Be it known that I, CHARLES E. HIGHBARGER, a citizen of the United States, residing at Great Falls, in the county of Cascade, State of Montana, 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 railway ties, of the class constructed principally of metal, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to provide a simply constructed tie in which provision is made for permitting a limited degree of flexibility under the severe strains to which devices of this character are subjected.

With these and other objects in view, the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claim, and in the drawings illustrative of the preferred embodiment of the invention. Figure 1 is a side elevation of one of the improved ties. Fig. 2 is a transverse section on the line 2-2 of Fig. 1. Fig. 3 is a longitudinal sectional view on the line 3-3 of Fig. 2. Fig. 4 is a plan view of the improved device illustrating a modification in the construction. Fig. 5 is a transverse section on the line 5-5 of Fig. 4. Fig. 6 is a section on the line 6-6 of Fig. 4. Fig. 7 is a perspective view on a reduced scale of a portion of the modified form of tie shown in Figs. 4, 5 and 6.

The improved tie comprises a lower body, an upper body and an intervening flexible element, whereby a limited degree of flexibility is provided.

The improved tie comprises a base member 10 in the form of a metal plate of the usual length and width of a railway tie, which is generally about eight feet long and about eight inches wide, but these dimensions may be varied if required.

In its simpler form the plate 10 is increased in width at its ends and the increased portions bent up to form the sides 11-12 of hollow bodies. The outer ends of the bodies are formed by bending the ends of the base member 10 upwardly as shown

at 13-14, the sides of the portions 13-14 bearing against the inner faces of the portions 11-12, and thus constituting a closure for the outer ends of the hollow bodies. Connected between the upwardly extended portions 11-12 at their ends are web members 15-16, these web members constituting the inner ends of the hollow bodies, as shown.

Located above the base 10 is an upper member comprising a plate 17 formed substantially in the same manner as the lower base 10 except that it is wider and longer and provided with apertures to receive the binding bolts 18 by which the rails 19 are connected.

At its outer portions the plate 17 is increased in width and the increased portions bent downwardly to form spaced sides 20-21 similar to the spaced sides 11-12 of the lower body, and bearing upon the outer faces of the same as shown in Fig. 2. At its outer ends the member 17 is bent downwardly as shown at 22-23, the portions 20-21-22-23 forming the sides and ends of the upper body portions. Located between the inner ends of the sides 20-21 are web members 24-25, and constituting the inner ends of the body portions. By this arrangement it will be obvious that two elongated lower box-like structures are formed upon the base member 10, while similar but larger box-like structures are formed upon the member 17, the upper box-like structures fitting over the lower box-like structures.

The interiors of the box-like structures are provided with a suitable flexible or yieldable filling material, which may be of wood, compressed leather, or other slightly yieldable substance or material. To this end the two members 10-17 with their attachments are spaced a sufficient distance apart so that the downward pressure is borne entirely by the filling material or substance, as represented.

In Figs. 4, 5, 6 and 7 a slight modification is shown consisting in making the depending side portions continuous as represented at 26-27, and providing webs 28-29 between the sides 26 at the same relative locality as the webs 24-25, and also providing webs 30-31 between the sides 27 and occupying the same relative locality as the webs 15-16 of the previously described structure, the webs 30-31 being of less

length than the distance between the sides 27 as shown in Fig. 7, to permit the sides 26 to pass between the sides 27 and the shortened ends of the webs, as shown in Fig. 5. The construction shown in Figs. 4, 5 and 6 provides an additional space for filler material centrally of the tie, as shown.

The improved device, except the filler portion, is constructed entirely of metal, and preferably steel pressed into the required shape, and constitutes a very strong and rigid tie, which is practically indestructible and will resist the severest strains to which ties are subjected, while at the same time are yieldable to a sufficient extent to prevent fracture under abnormal conditions. By providing the ties with the yieldable filling material, the objectionable rigidity of the

road bed when ties of metal only are employed, is obviated without decreasing the strength or efficiency of the tie.

What is claimed is:—

A railway tie comprising a lower body formed of a longitudinal member having hollow bodies at the ends and open at the tops, an upper body formed of a longitudinal member having hollow bodies at the ends and opening downwardly and fitting over the bodies of the lower member, and flexible filling material within the bodies.

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

CHARLES E. HIGBARGER.

Witnesses:

LUCY HIGBARGER,
BARBARA HIGBARGER.