C. J. BURCH.

METALLIC RAILWAY TIE AND FASTENER.

APPLICATION FILED FEB. 14, 1910.

980,058.

Patented Dec. 27, 1910.

Fig. 1.

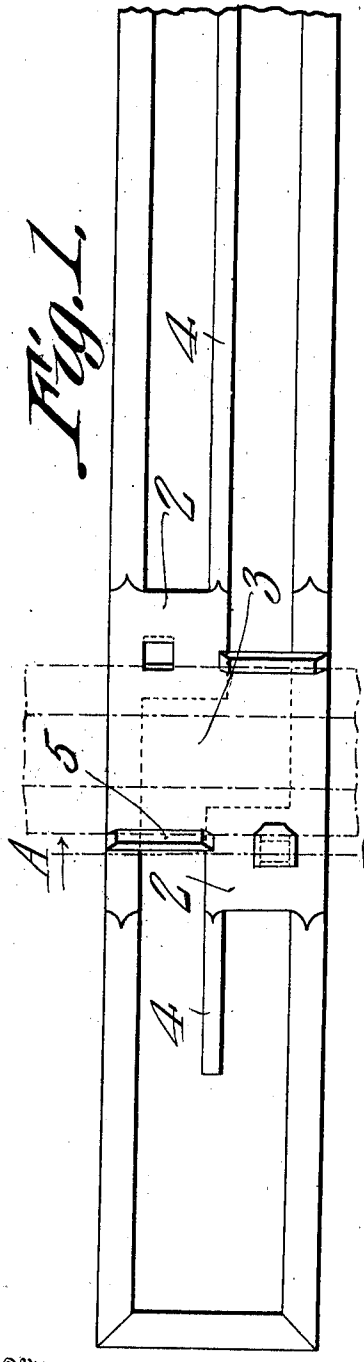


Fig. 2.

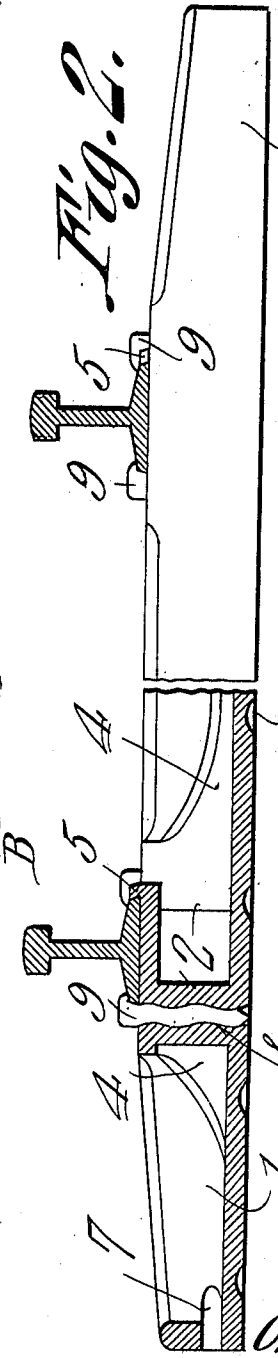


Fig. 4.

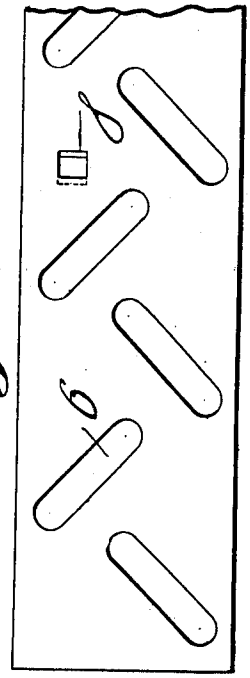
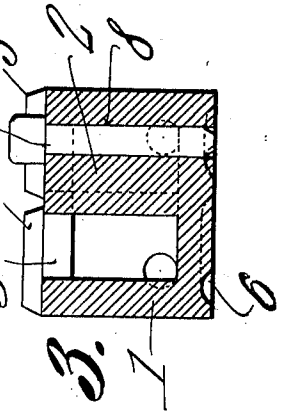


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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METALLIC RAILWAY-TIE AND FASTENER.

980,058. Specification of Letters Patent. Patented Dec. 27, 1910.

Application filed February 14, 1910. Serial No. 543,696.

To all whom it may concern:

Be it known that I, CHARLES J. BURCH, a citizen of the United States, residing at Lena, in the county of Parke and State of Indiana, have invented a new and useful Metallic Railway-Tie and Fastener, of which the following is a specification.

This invention relates to metallic railway ties and to rail fasteners for use in connection therewith.

Devices of this character such as heretofore devised have utilized rail engaging bolts, plates, and other devices which tend to work loose as a result of the vibrations produced by trains traveling over the rails and it has been difficult to properly adjust or tighten the parts.

One of the objects of the present invention is to provide a metallic railway tie with which ordinary spikes may be employed, these spikes being driven into the tie in the same manner as where used in connection with wooden ties so as to bring their heads into engagement with the base flanges of the rails.

A further object is to provide means whereby the spikes, should they become loose, can be driven farther into the tie and thus tightened, it being possible to withdraw the spikes from the tie whenever desired, by employing an ordinary spike puller such as is usually employed for this purpose.

A further object is to provide a tie which is simple and durable in construction.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings, Figure 1 is a plan view of one end portion of a tie constructed in accordance with the present invention, the position of the rail thereon being indicated by dotted lines. Fig. 2 is a view partly in longitudinal section and partly in elevation of the tie, the middle portion of said tie being removed and the rails upon the tie being shown in section. Fig. 3 is a section on line A—B, Fig. 1. Fig. 4 is a bottom plan view of one end portion of the tie.

Referring to the figures by characters of reference 1 designates a trough like body having blocks 2 formed therein adjacent opposite sides thereof at those points where the rails are to be supported, the blocks being located in pairs and connected by a bridge 3 on which one of the rails is designed to rest. Longitudinally extending reinforcing webs 4 are formed within the tie body and extend from the blocks 2.

Transversely extending parallel ribs 5 are formed on each bridge 3 between the blocks 2 and the far side of the tie body, these ribs being spaced apart distances substantially equal to the width of the base of a rail and constituting means for holding a rail against lateral displacement.

Diagonally disposed depressions 6 may be formed in the bottom of the tie so as to engage the roadbed and prevent said tie from creeping longitudinally. Moreover one or more drain openings 7 may be formed in the ends of the tie so as to permit moisture to flow out of the tie.

Each of the blocks 2 has an opening 8 extending therethrough from the top to the bottom thereof, each of the openings having two of its opposed walls waved so as to form a sinuous passage therebetween. Each of these openings or passages is designed to receive an ordinary wrought iron spike 9 such as is used in connection with wooden ties.

It will be noted by referring to the drawings that the curved walls of the passage do not intersect the longitudinal center of the passage but, instead, a straight tool of considerable width can be inserted entirely through the passage should it be desired, for example, to drive a broken spike out of said passage.

After a rail has been placed upon one of the bridges 3 and between the holding ribs 5, a spike may be placed in the upper end of one of the passages 8 and is then driven downwardly by means of a sledge hammer. The spike will be caused to follow the sinuous passage and will bend back and forth during its movement thereinto and thus become firmly anchored at any point to which it may be driven. By forcing it downwardly until the head of the spike engages the rail, it will be apparent that the rail will be securely held in place thereby. As each of the blocks 2 is provided with an opening of this character, it will be seen that a spike may be placed at each side of a rail so as to securely hold it in place. Should it be desired to re-

move one of the spikes from the tie, it would merely be necessary to grip the spike with an ordinary puller whereupon, by exerting sufficient power, the spike can be pulled upwardly. Should the head of the spike break off, said spike can be driven downwardly through the sinuous passage by means of a suitable tool provided for that purpose.

It will be seen that a tie and fastener such as herein described is very simple in construction, and does not require the use of bolts, nuts and the like for the purpose of attaching rails to the tie.

The spikes employed are of the ordinary type and do not require any special devices for driving them into the ties. Should any one of the spikes become loose, it can be readily tightened by driving it still farther into the tie.

It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claims.

What is claimed is:—

1. A tie having a sinuous fastener receiving opening provided with a straight unobstructed longitudinal center.

2. A metallic railway tie having a sinuous fastener receiving opening extending therethrough, the straight longitudinal center of the opening being unobstructed by the walls of said opening.

3. The combination with a tie having an opening therein, of a bendable rail fastener insertible into the opening, the walls of said opening coöperating to bend the fastener during the insertion thereof said inserted fastener having a straight central longitudinal portion.

4. The combination with a metallic tie having an opening extending therethrough, of a bendable rail fastener adapted to be driven into said opening, opposed walls of the opening coöperating to distort the fastener when driven into the opening, there being a straight central longitudinal portion within the distorted fastener.

5. A metallic railway tie having spaced rail engaging portions upstanding therefrom and sinuous fastener receiving openings extending through the tie and spaced from said portions.

6. A metallic railway tie having a plurality of sinuous fastener receiving passages extending therethrough from the top to the bottom thereof, the bottom of each opening being visible from the top thereof.

7. A trough-like metallic railway tie having nonalining spaced blocks integral therewith, and a rail supporting bridge connecting the blocks, there being a tortuous fastener receiving passage extending through each block from the top to the bottom thereof, the bottom of each passage being visible from the top thereof.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES J. BURCH.

Witnesses:
J. A. McFall,
Wm. A. Hoots.