

J. H. KILLINGER.
COMPOSITE RAILWAY TIE.
APPLICATION FILED MAY 20, 1911.

1,008,829.

Patented Nov. 14, 1911.

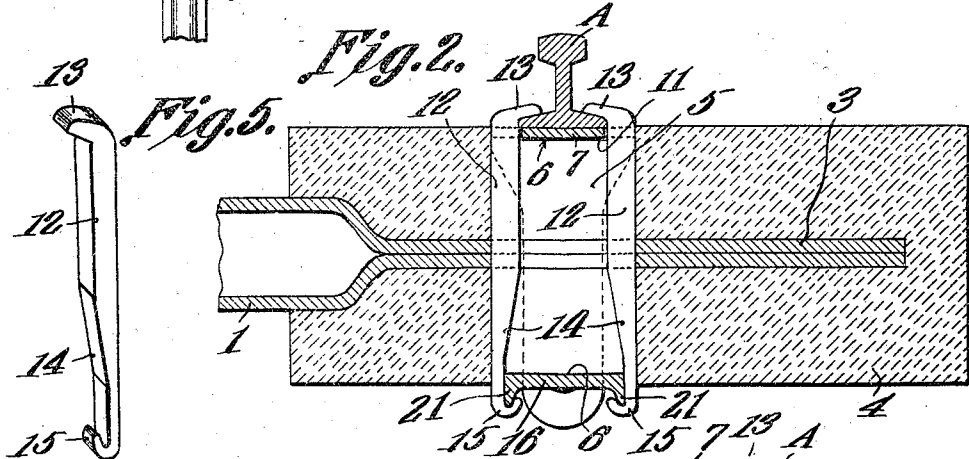
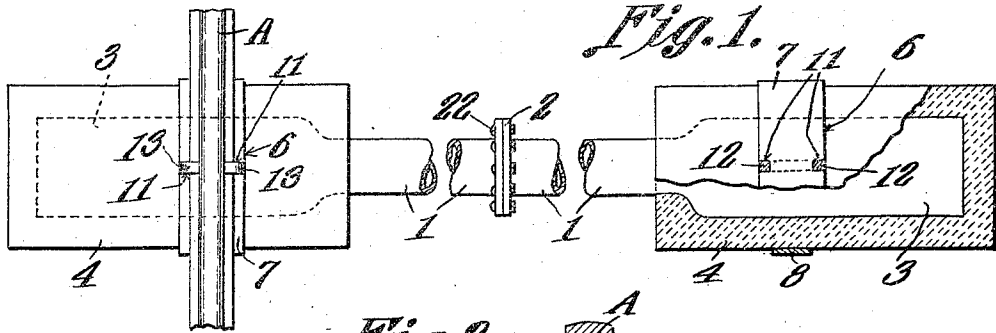


Fig. 3.

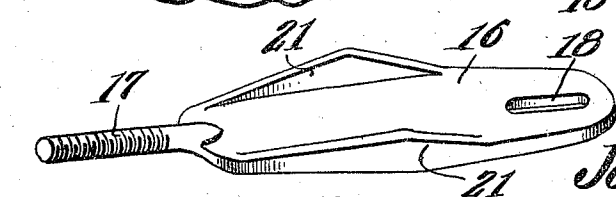
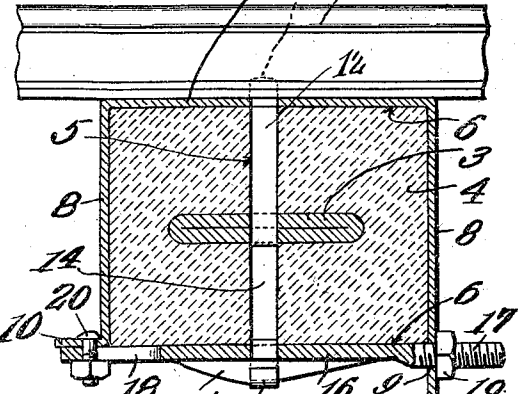
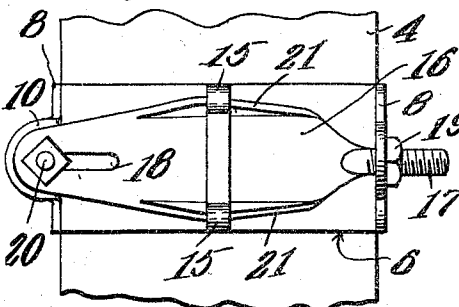


Fig. 6.

Witnesses
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UNITED STATES PATENT OFFICE.

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COMPOSITE RAILWAY-TIE.

1,008,829.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN H. KILLINGER, a citizen of the United States, residing at Colebrook, in the county of Lebanon and State of Pennsylvania, have invented a new and useful Composite Railway-Tie, of which the following is a specification.

This invention relates to composite railway ties, its object being to provide a tie made up of concrete rail supporting blocks and metallic connections therebetween, said connections being of such character as to permit the necessary elasticity of the tie.

A further object is to provide a tie of this character made up of oppositely disposed similar sections, each section being reversible so as to compensate for wear and tear and practically double the life of the tie.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

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

In said drawings:—Figure 1 is a plan view of a tie embodying the present improvements, portions of the metallic connections being broken away and one of the blocks being shown partly in section, there being a rail upon the other block. Fig. 2 is an enlarged central vertical section through one end portion of the tie and showing a rail secured in position thereon. Fig. 3 is a bottom plan view of a portion of the tie and of the rail fastening means thereon. Fig. 4 is a vertical transverse section through one end portion of the tie and showing the rail fastening means partly in section and partly in elevation. Fig. 5 is a perspective view of one of the rail engaging devices. Fig. 6 is a perspective view of the wedging member or key of the rail fastening means.

Referring to the figures by characters of reference 1 designates a pipe section having a collar 2 at one end while its other end is flattened, as indicated at 3 and is embedded within the middle portion of a concrete block 4, said flattened portion lying parallel with the top and bottom faces of the block. A slot 5 extends from the top to the bottom

of the block adjacent the center thereof and also through the flattened portion 3 of pipe 1, there being transverse grooves 6 in the top and bottom faces of the block and of the same width as the slot. These grooves extend throughout the width of the block and the groove in the upper face of said block is adapted to receive a wear plate 7 having arms 8 extending downwardly therefrom along the sides of the block, one of these arms projecting below the bottom of the block and having an opening 9 therein while the other arm has its lower end portion extended laterally to form an apertured ear 10. Wear plate 7 has notches 11 formed in opposite sides thereof and registering with the slot 5, the distance between these notches being equal to or slightly less than the width of the base of the rail A to be mounted on the tie.

The slots 5 are designed to receive jaws 12, the length of each jaw being greater than the distance between the upper and lower faces of the block 4 and each of these jaws being provided, at its upper end, with a rail engaging head 13 while its lower end portion is reduced in thickness, as indicated at 14 and merges into a hook 15. The notches 11 are of such size as to readily receive the hooks 15 when the jaws are being inserted into the slots 5 and, when the heads 13 of the jaws rest upon the base flanges of a rail mounted on the wear plate 7, the hooks 15 are supported below the lower face of the block 4, as clearly indicated in Figs. 2 and 4.

The hooked lower ends of the jaws are adapted to be engaged by a wedging key 16 having a threaded stem projecting from one end while a slot 18 is formed longitudinally within the other end portion thereof. Stem 17 is adapted to project through the opening 9 and to be engaged by a tightening nut 19, while the slot 18 is designed to register with the opening in the ear 10 and to receive a bolt 20 extending downwardly from said ear. The sides of the member 16 diverge from the stem 17 and formed on these diverging edge portions are flanges 21 having inclined edges.

As hereinbefore stated the tie is made up of two similar sections, each of the sections being of the construction hereinbefore described.

In assembling the parts of the tie, the flanges 2 are brought together and secured by means of bolts 22 or the like, either

grooved face of each block 4 being placed uppermost. The wear plates 7 are then placed in the upper grooves 6 so that the arms 8 will extend downwardly along the sides 5 of the blocks and the notches 11 will register with the slots 5. The rails to be fastened on the tie are then placed on the wear strips 7 after which the hooked ends 15 or the rail fastening jaws are inserted through the notches 11 and into the slots 5 so as to bring the heads 13 of the jaws into engagement with the base flanges of the rails. The jaws in each block are then shifted so as to bind tightly upon the rails, by inserting the wedge plate 16 between the lower hooked ends 15 of the jaws and with the flanges 21 engaging said hooks. By shifting the plate 16 longitudinally by means of the nuts 19 on stem 17, the inclined edges of flanges 21 will ride upon the hooks 15 and draw the jaws 12 downwardly while, at the same time, the diverging sides of the plate will push against the lower ends of the jaws and cause them to move apart, the end walls of the slot within the flattened portion 3 of the pipe 1 constituting fulcrums on which the jaws work. The upper end portions of the jaws will thus pull downwardly on the rails and at the same time clamp the rails therebetween. After the proper adjustment has been effected, the bolt 20 can be tightened within slot 18 and the road bed tamped about the tie block so as to conceal the plate 16 and the lower portions of the arms 8.

Should the upper portion of either block 4 become chipped or otherwise rendered undesirable for use, the tie section can be

unfastened from the other section of the tie and reversed after which the wear plate can be placed in the uppermost groove and the parts reassembled in the manner hereinbefore set forth. It is to be understood that each of the jaws 12 is to a certain extent resilient so that, after the jaws have been tightened in the manner hereinbefore set forth, they yieldingly engage the rails so as to hold them firmly irrespective of any contraction or expansion of the parts or any jolting which may be produced by the movement of a train over the rails. The pipe connection between the blocks permits any necessary resiliency of the tie. Plate 16 and the parts depending therefrom constitutes means for preventing the tie from creeping after having once been set upon the road bed.

What is claimed is:—

1. A composite railway tie including rail supporting blocks, and a tubular connection between the blocks and having flattened ends anchored within the blocks.

2. A composite railway tie including concrete rail supporting blocks, tubular connecting devices having flattened ends anchored within the blocks and means for securing said devices together.

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

JOHN W. KILLINGER,

Witnesses:

JOHN H. YOUTZ,
ELIAS E. RISSER.