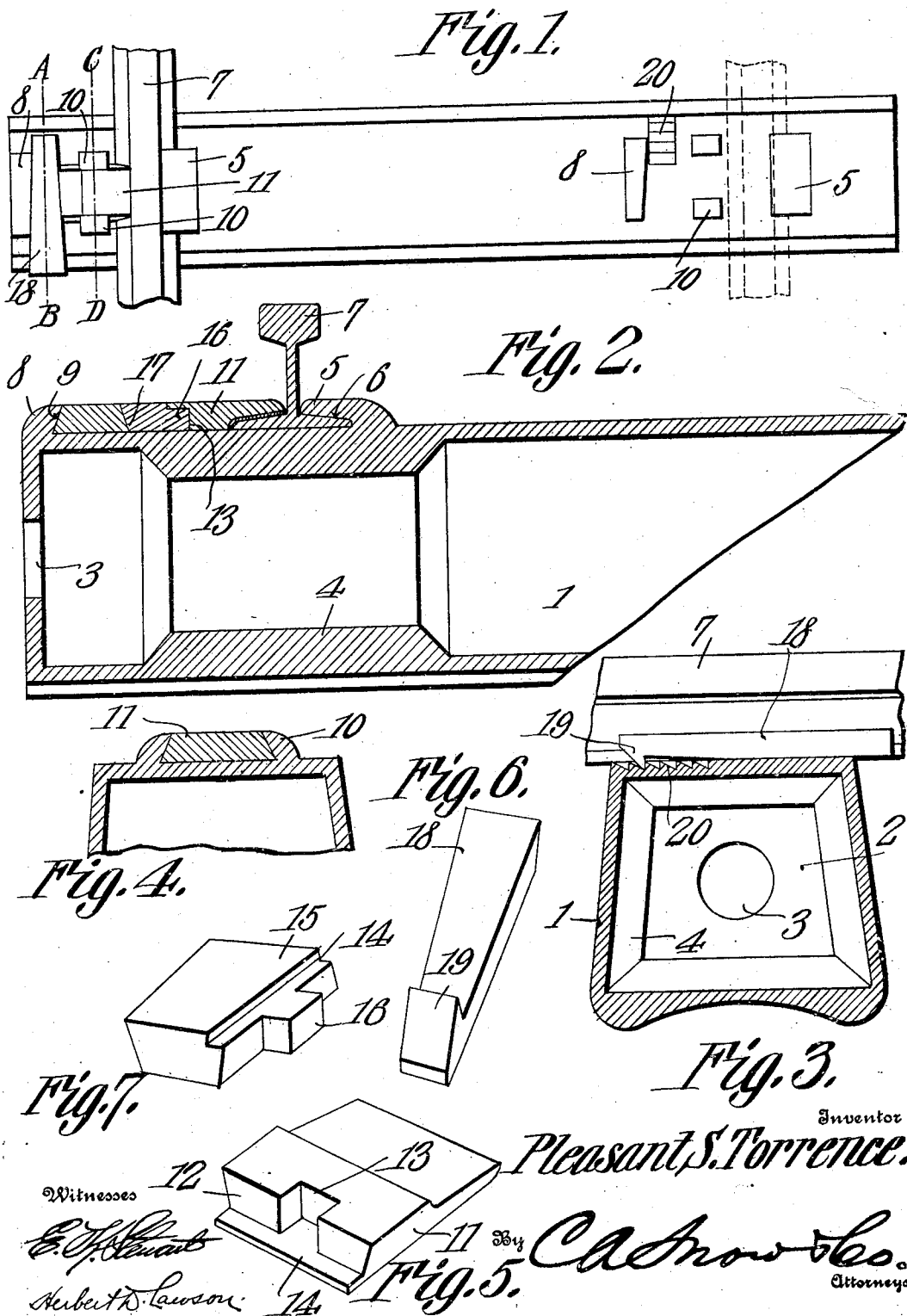


P. S. TORRENCE.  
RAILROAD TIE.  
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937,972.

Patented Oct. 26, 1909.



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# UNITED STATES PATENT OFFICE.

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## RAILROAD-TIE.

937,972.

Specification of Letters Patent.

Patented Oct. 26, 1909.

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*To all whom it may concern:*

Be it known that I, PLEASANT S. TORRENCE, a citizen of the United States, residing at Mooresville, in the county of Iredell and State of North Carolina, have invented a new and useful Railroad-Tie, of which the following is a specification.

This invention relates to metallic railway ties and to means for fastening rails thereto.

The object of the invention is to provide an all metal structure of this character which is very durable in construction and which has means whereby rails may be securely attached thereto without the necessity of employing bolts or similar fastening devices.

A further object is to provide fastening means which cannot become accidentally displaced as a result of the vibration produced by cars traveling over the rails, said fastening means being also adjustable so as to take up any wear which might occur between the parts.

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 a tie embodying the present improvements the fastening devices at one end of the tie being removed. Fig. 2 is a central vertical longitudinal section through one end portion of the tie and showing a rail secured thereon. Fig. 3 is a section on line A—B Fig. 1. Fig. 4 is a section on line C—D Fig. 1. Fig. 5 is an inverted perspective view of the adjustable rail-gripping jaw of the fastener. Fig. 6 is an inverted perspective view of the key used in connection with the gripping-jaw. Fig. 7 is a perspective view of the intermediate block of the fastener.

Referring to the figures by characters of reference 1 designates the body of the tie the same being preferably formed in a single casting having upwardly converging longitudinal walls while the ends can be entirely open, or if preferred can be closed by walls 2 having large ventilating openings 3 therein. The bottom of the tie is concaved transversely so that said tie will be properly centered upon the road-bed and any moisture accumulating thereunder will tend to flow beyond the sides of the tie. At points near the ends of the tie body the top, bottom and

side walls of said body are thickened as indicated at 4, these thickened portions being arranged directly under the points where the rails are mounted. Formed upon the tie body above each thickened end portion thereof is a transversely extending rail-engaging jaw 5, one face of which is undercut as clearly indicated at 6 in Fig. 2, so as to fit snugly upon one of the base flanges of a rail 7. Another transversely extending projection 8 is formed upon the tie body at a point removed from the jaw 5, said projecting portion constituting an abutment for a key as hereinafter set forth, the working face of the abutment being inclined as indicated at 9. Parallel guide rims 10 are formed in the tie body between jaw 5 and abutment 8, these rims having their adjoining faces dovetailed so as to be slidably engaged by the beveled sides of a movable jaw 11. One end of said jaw is shaped so as to lap and fit snugly upon one of the base flanges of rail 7, and the other end of said jaw is provided with a transverse groove 12, one wall of which has a recess 13 therein. The flange 14 formed by groove 12 normally rests within a groove 14 formed in the corner portion of an intermediate block 15, said block having a projection 16 upon the grooved end thereof which is designed to be seated within the recess 13. That end of block 15 which is nearest the abutment 8 is inclined as indicated at 17 in Fig. 2 and is obliquely disposed, there being a wedge-shaped key 18 insertible between this inclined end 17 and the correspondingly inclined end 9 of abutment 8. Obviously when said key is driven longitudinally it will shift the intermediate block 15 between the guide rims 10, and thus force the jaw 11 firmly against the rail engaged thereby. A head 19 is formed at one end of the key 18, and this head is designed to spring into engagement with any one of a series of teeth 20 formed upon the upper face of the tie body and extending partly there-across.

As indicated in Fig. 1, the adjustable jaws of the fasteners may if desired engage the outer base flange of one rail and the inner base flange of the other rail, this arrangement being especially desirable adjacent switches and at other points where it would be impossible to arrange the fastening devices between the rails.

It will be seen of course that should the fasteners become loose it is merely necessary

to shift the key longitudinally so as to bring the head of the key into engagement with another tooth 20.

Obviously various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

1. The combination with a metallic tie 10 body, of a fixed jaw upon the body, an abutment integral with the body, guides integral with and upstanding from the body, interengaging members slidably mounted upon the body and between the guides, one of said 15 members constituting a rail engaging jaw, and means insertible between the other member and the abutment for shifting said members between the guides.

2. The combination with a metallic tie

body, of a fixed jaw upon the body, an abutment integral with said body, a movable 20 jaw slidable on said body, guides therefor and integral with the body, an intermediate block bearing against said movable jaw, said jaw and block having interengaging means 25 for holding them against independent lateral movement, a key insertible between the block and abutment, said key having a head, and teeth upon the body for engagement by the head. 30

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

PLEASANT S. TORRENCE.

Witnesses:

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W. D. TEMPLETON.