

No. 835,856.

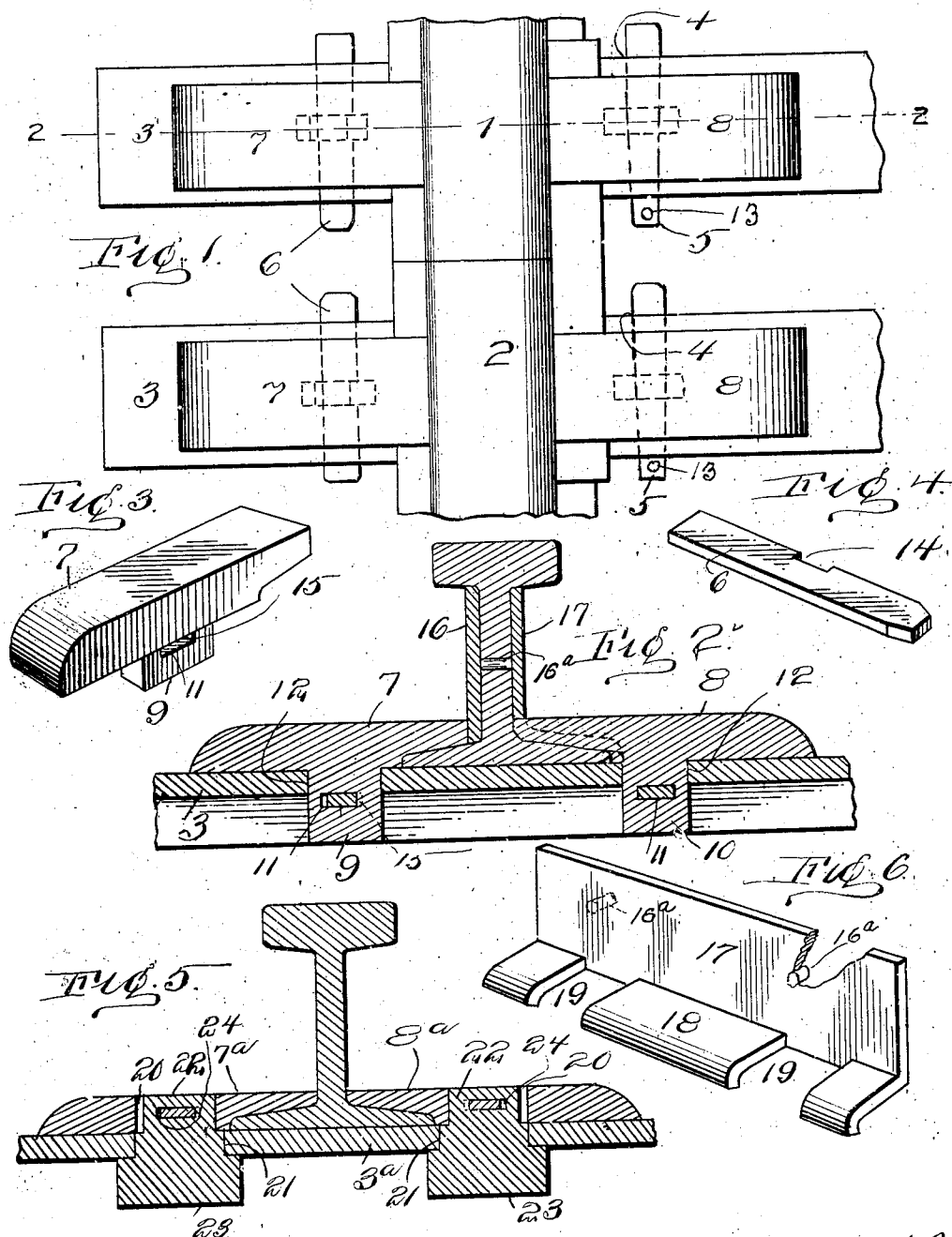
PATENTED NOV. 13, 1906.

J. FRASER.

METALLIC TIE AND RAIL FASTENER.

APPLICATION FILED MAY 19, 1906.

2 SHEETS—SHEET 1.



Witnesses

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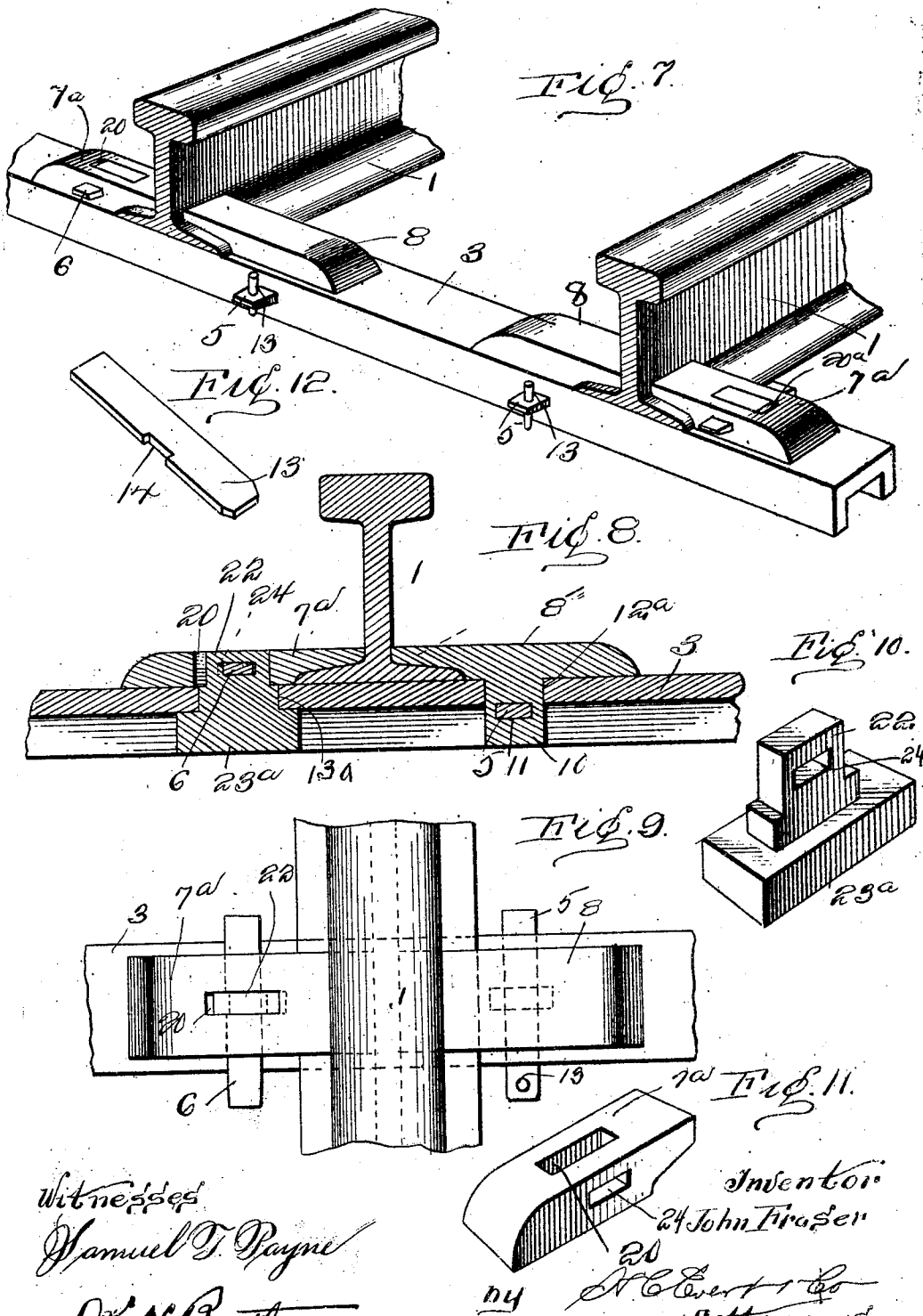
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UNITED STATES PATENT OFFICE.

JOHN FRASER, OF INGLESIDE, PENNSYLVANIA.

METALLIC TIE AND RAIL-FASTENER.

No. 835,856.

Specification of Letters Patent.

Patented Nov. 13, 1906.

Application filed May 19, 1906. Serial No. 317,779.

To all whom it may concern:

Be it known that I, JOHN FRASER, a citizen of the United States of America, residing at Ingleside, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to railway-ties and fastenings; and its primary object is to provide a metallic tie and rail-fastening thereto whereby the use of the usual spikes for securing rails to ties will be avoided.

A further object of this invention is to provide railway rails and ties with novel rail-securing devices which may be readily manipulated to secure the rails firmly in place or to remove the same when occasion requires.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawings, which form a part of this specification, and its novel features will be defined in the appended claims.

In the drawings, Figure 1 is a plan view showing my improvement applied to the meeting ends of two rail-sections. Fig. 2 is a sectional view on the line 2-2 of Fig. 1. Fig. 3 is a detail perspective view of one of the clamp-sections employed. Fig. 4 is a perspective view of one of the slotted keys for securing the clamp-sections in position. Fig. 5 is a transverse vertical section illustrating a modified form of improvement applied to a rail. Fig. 6 is a detail perspective view of a slotted fish-plate used in connection with my improved fastening. Fig. 7 is a view in perspective, showing a further modification of the improvement. Fig. 8 is a vertical section of one of the rails and its securing devices. Fig. 9 is a plan view of the device shown in Fig. 8. Fig. 10 is a detail perspective of the locking-block employed in the construction shown in Figs. 8 and 9. Fig. 11 is a detail perspective view of one of the clamp-sections shown in Fig. 8. Fig. 12 is a perspective view of one of the locking-keys.

In Fig. 1 the reference-numerals 1 and 2 designate the meeting ends of two railway-rails supported upon metallic ties 3, the latter being in the form of channel-bars and having their opposite vertical sides formed with slots 4 to receive locking-keys 5 and 6. The rails are secured to the ties by clamping device each comprising two members adapt-

ed to overlap the base of the rail on opposite sides thereof.

In the construction shown in Figs. 2 and 3 the clamp members or sections 7 and 8 are each provided with an integral lug, (designated by the numerals 9 and 10,) said lugs depending from the under sides of the clamp-sections and being formed with elongated slots 11, adapted to register with the slots 4 of the ties. These lugs extend through slots 12, formed in the top of the tie, and are secured therein by the keys 5 and 6. The keys 5 are preferably of wedge form adapted to be driven to place and secured by cotter-pins 13; but the keys 6 for securing the outer clamp members 7 are each formed with a recess 14 to be engaged by the inner end wall 15 of the slot 11 in the lug 9, said slot being of sufficient length to permit a slight outward movement of the clamp-section 7 to permit the interlocking engagement of the key 6 and lug 9, as described. This locked portion of the clamp member 7 is maintained by the engagement therewith of the rail, as illustrated in Fig. 2. The numerals 16 and 17 designate, respectively, a splice-bar and fish-plate employed to connect the ends of the rails, the flange 18 of the fish-plate being formed with recesses 19 to accommodate the outer clamp members 8.

In Fig. 5 I have shown a modified construction of both the tie and rail-fastening means. In this instance the tie 3^a is a flat bar without the vertical flanges shown in Fig. 2, and the clamping members 7^a and 8^a are formed with slots 20, registering with slots 21, formed in the tie, to receive lugs 22, projecting from stepped blocks 23. These lugs 22 are provided with elongated key-slots 24, registering with corresponding transverse slots formed in the clamp members, to receive suitable keys. The blocks 23 serve as anchoring-blocks for the tie, and their lugs 22 serve the purpose of the depending lugs 9 and 10 of Fig. 2.

Figs. 7 to 12, inclusive, illustrate another modification, which is a combination of the two forms of the locking means shown in Figs. 2 and 5. In this embodiment of the invention the tie 3 is of channel form and provided in its top with slots 12^a and 13^a. The inner clamp member 8 is similar in construction to that shown in Fig. 2, having the slotted lug 10 extending through the slot 12^a. The outer clamp member 7^a is similar to that shown in Fig. 5, having a slot 20 to receive a

lug 22, projecting upward from a block 23^a. The block 23^a is stepped to support the tie and clamp member 7^a, and the lug 22 is provided with an elongated horizontal slot 24, registering with similar slots in the sides of the clamping member 7^a, to receive the slotted key 6.

The utility and advantages of the improvement constructed as thus described will be readily understood and appreciated. The metallic tie is strong and durable, and its channel-bar form enables it to be readily tamped upon the road-bed.

In securing the rails the outer clamp members are first placed in position overlapping the outer side of the base of the rail. A slight outward movement of the said clamping members effects their secure interlocking engagement with the slotted keys 6, after which the inner clamping members 8 are securely keyed in position upon the inner sides of the rail-base.

In the form of the device shown in Figs. 8, 9, and 10 the block 23^a is of sufficient width to snugly fit between the sides of the tie to prevent movement of the lug 22. The fish-plates 16 and 17 are provided with lugs 16^a, fitting recesses in the rails, and by employing my improved fastening means no bolts or nuts are required for securing the fish-plates.

An important advantage of my improvement is that the detachable securing-keys permit a changing of gage or substitution of light for heavy rails, or vice versa.

The blocks employed at the joints of the rails are made larger and thicker than those used at points between the joint.

It is obvious that my improved devices afford a reliable means for securing railway-rails without the use of the ordinary spikes, and while the several forms of the device herein shown and described are practical and

simple I would have it understood that I reserve the right to make all such changes and modifications in the minor details of construction as may fall within the scope of the following claims.

What I claim, and desire to secure by Letters Patent, is—

1. In a rail-fastening, the combination with a metallic tie of channel-bar form provided with longitudinal and transverse slots, of a rail-clamp comprising two members adapted to engage the base of a rail on opposite sides thereof, and locking-lugs extending through the vertical slots of the tie, and keys extending through said lugs and through the transverse slots of the tie.

2. In a rail-fastening, the combination with a metallic tie of channel-bar form, provided with longitudinal and transverse slots, of a rail-clamp comprising two members adapted to engage the base of a rail on opposite sides thereof, and means for securing said clamp members to the tie, consisting of slotted lugs extending through the longitudinal slots of the tie, and keys extending through the slots in said lugs.

3. In a rail-joint, the combination with a metallic tie of channel-bar form, having a longitudinal slot in its top portion, of a slotted rail-clamp, and means for securing the same to the tie comprising a metallic block filling the space between the sides of the tie and having an upwardly-projecting slotted lug extending through the slot in the tie, and a key fitting the slots in said lug and in the clamp.

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

JOHN FRASER.

Witnesses:

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L. F. GARDNER.