

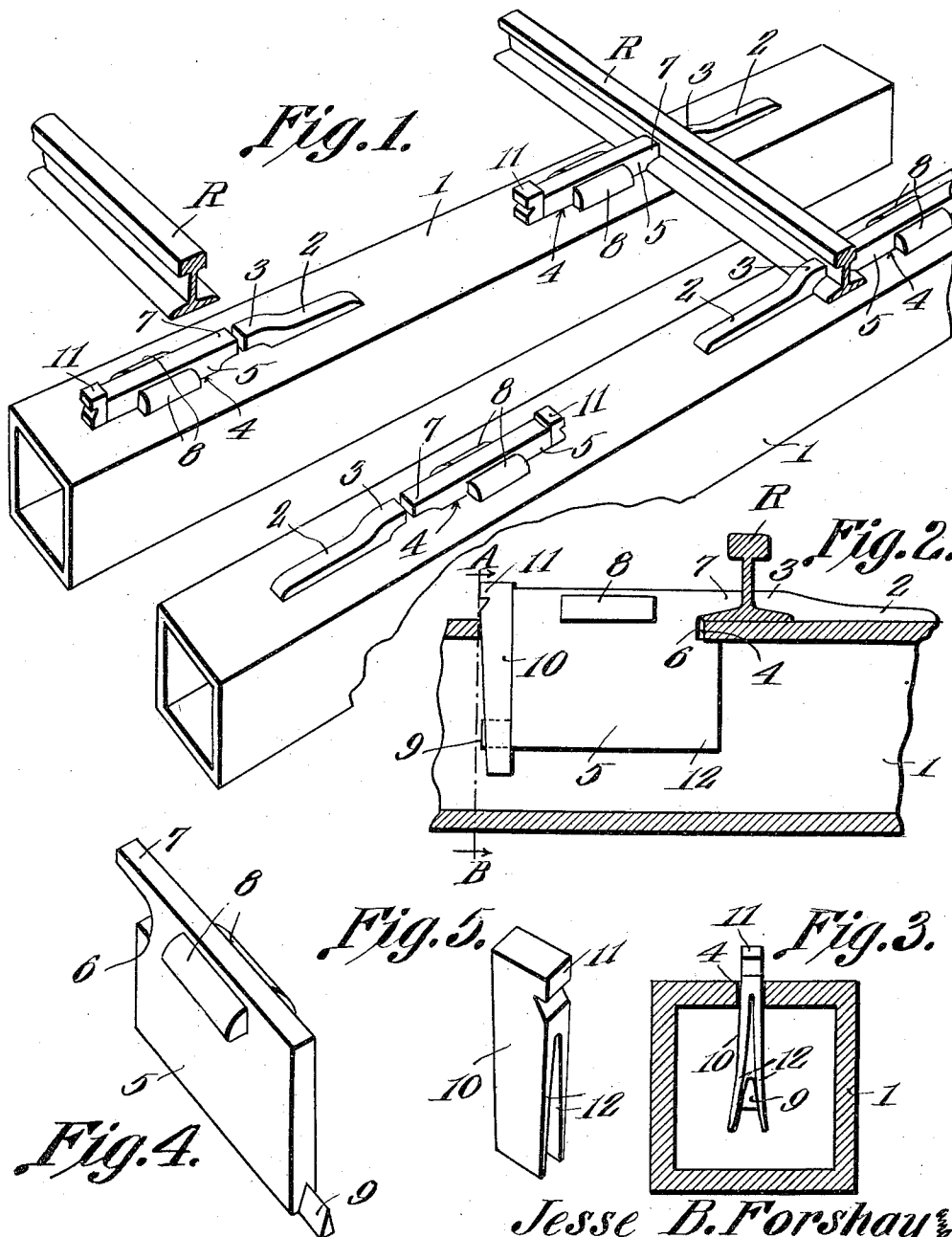
J. B. FORSHAY & C. J. RHOADS.

RAIL TIE AND FASTENER.

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Witnesses

J. P. Dineen
L. H. Chow

Jesse B. Forshay &
Charles J. Rhoads, Inventors
by *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

JESSE B. FORSHAY AND CHARLES J. RHOADS, OF PITTSBURG, KANSAS.

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Specification of Letters Patent.

Patented Dec. 10, 1912.

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To all whom it may concern:

Be it known that we, JESSE B. FORSHAY and CHARLES J. RHOADS, citizens of the United States, residing at Pittsburg, in the county of Crawford, State of Kansas, have invented a new and useful Rail 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, one of the objects of the invention being to provide a rail engaging element which is removable from the tie and which is adapted to be held against displacement relative to the tie by means of a key of novel form, adapted to be driven into place by means of a hammer or the like.

A further object is to provide means upon the rail engaging element for spreading the key when moved into holding position so as to prevent accidental withdrawal of the key from the tie.

A further object is to provide a metallic tie having integral rail engaging elements thereon so located that when rails are placed in engagement therewith, they will form a track of the desired gage.

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 perspective view of two ties having the present improvements combined therewith, portions of one of the ties being broken away and certain of the fastening devices being shown in engagement with a rail. Fig. 2 is a longitudinal section through a portion of a tie and showing the rail fastening means in elevation. Fig. 3 is a section on line A—B Fig. 2. Fig. 4 is a perspective view of one of the detachable rail engaging elements. Fig. 5 is a perspective view of a fastening key.

Referring to the figures by characters of reference 1 designates a metallic tie which is hollow, as shown, and preferably rectangular in cross section. Formed on the top

face of the tie are longitudinally extending alining ribs 2 each of which is enlarged at one end to form a rail engaging jaw 3. These ribs are preferably so located that when rails R are placed in engagement therewith the proper gage of the track will be obtained. As shown in the drawings one of the jaws 3 can engage the outer base flange of one rail while the other jaw on the tie can engage the inner base flange of the other rail. Thus, by placing adjoining ties oppositely to each other it will be seen that the jaws 3 will operate to hold the rails R positively at proper distances apart and will prevent them from spreading.

Formed longitudinally within the top of each tie and beyond each jaw 3 is a slot 4 adapted to receive a fastening plate 5 one end of which has a recess 6 overhung by a rail engaging jaw 7 which extends beyond the end of the plate 5. The recess 6 is of sufficient width to receive one end wall of the slot 4 and also to receive the base flange of a rail. Supporting ribs 8 are formed on the sides of the plate 5 near the top thereof and are adapted to bear downwardly on the top face of the tie 1. A wedge-shaped extension 9 projects from that end of the plate remote from the recess 6 and is located preferably close to the lower edge of the plate, the sides of the projection diverging downwardly. It is to be understood that when the plate 5 is seated within the slot 4, there is a space left between one end of the plate and one end of the slot 4. This space is adapted to receive a key 10 in the form of an elongated wedge having a head 11 at its upper end while the lower portion thereof is slotted, as shown at 12.

When it is desired to fasten a rail to the tie, one of the base flanges of the rail is placed under the jaw 3. Plate 5 is then inserted into the slot 4 and shifted longitudinally so as to cause one end wall of the slot 4 and one of the base flanges of the rail to become seated within the recess 6. Jaw 7 will thus fit against the web or base of the rail and will be directly opposite the jaw 3. Ribs 8 of course prevent the plate 5 from dropping too far into the slot 4. After the plate has thus been positioned, the wedge 10 is placed in the slot 4 between plate 5 and one end wall of the slot and is driven downwardly by means of a sledge or the like so as to cause the forked end 12 of the wedge to straddle the wedge-shaped projection 9 on

the plate. This projection will spread the fork 12 as the wedge 10 is driven downwardly and it will be seen, therefore, that the wedge or key 10 will be prevented from
 5 working upwardly and thereby releasing plate 5 from the rail R. Furthermore, as the wedge or key 10 is driven downwardly it will shift the plate 5 longitudinally so as to cause it to clamp tightly on the rail.

10 Should it be desired to remove the key 10 from the tie, it is first necessary to place a spike puller in engagement with the head 11 of the key whereupon said key can be withdrawn from the slot 4, thereby releasing
 15 the plate 5.

What is claimed is:—

1. The combination with a hollow metallic railway tie and a rail engaging jaw integral therewith, there being a slot within the tie
 20 and beyond the jaw, of a rail fastening element insertible into the slot and having a rail engaging jaw at one end, there being a recess in said element to receive one wall of the slot, means on said element for limiting
 25 its movement downwardly into the slot, a projection outstanding from said element, and a key insertible between said element and one wall of the slot and movable into engagement with the projection, said projec-
 30 tion constituting means for spreading the key in engagement therewith.

2. The combination with a hollow metallic railway tie and a rail engaging jaw thereon, there being a slot within the tie and en-
 35 gaging the jaw, of a plate insertible in the slot, a rail engaging jaw at one end of the plate, there being a recess within the plate

and below the jaw to receive one wall of the slot and a base flange of the rail, a wedge-shaped projection upon the plate at its other
 40 end, and a forked key adapted to be driven into the slot between the plate and one wall of the slot, said projection constituting means for engaging and spreading the key.

3. The combination with a railway tie and
 45 a rail engaging jaw thereon, there being a slot within the tie, of a rail engaging plate insertible into the slot and having a recess to receive one wall of the slot, a forked
 50 wedging key insertible between said plate and one end of the slot, and means on the plate for engaging the key to spread said key laterally below the slot.

4. The combination with a metallic rail-
 55 way tie and a rail engaging jaw thereon, there being a slot within the tie, of a plate insertible into the slot and constituting rail engaging means, there being a recess within
 60 the plate for the reception of one wall of the slot, a forked wedging key insertible into the slot between said plate and one wall of the slot, and a wedge-shaped projection
 65 on the plate adapted to be engaged by the key and constituting means for spreading the key below the slot.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

JESSE B. FORSHAY.
 CHARLES J. RHOADS.

Witnesses:

W. F. HALL,
 H. A. SMITH.