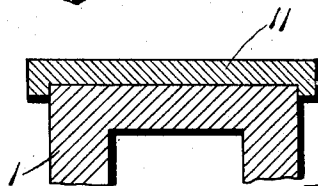
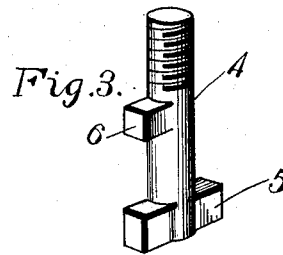
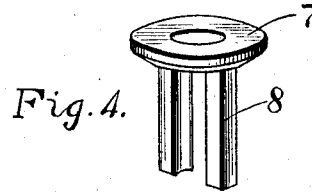
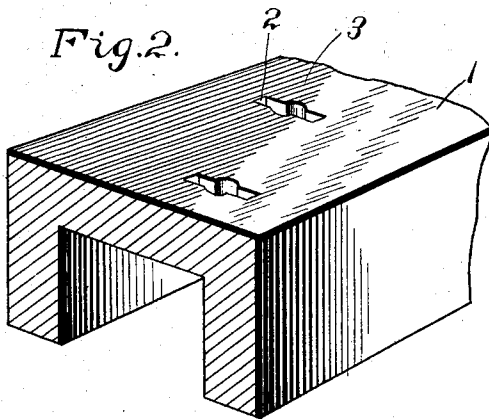
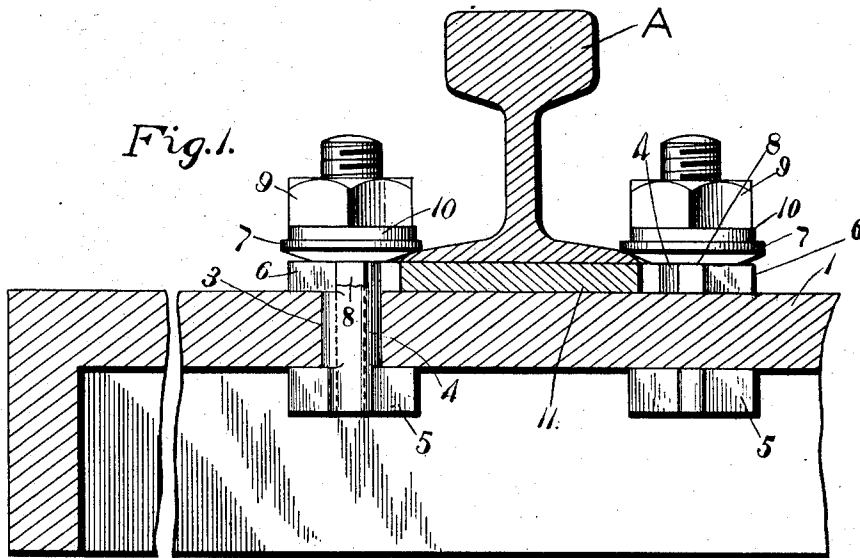


W. DILLINGER.
RAILWAY TIE AND FASTENER.
APPLICATION FILED JULY 15, 1911.

1,013,138.

Patented Jan. 2, 1912.



Witnesses

J. Tomlin
W. H. Martin

William Dillinger
Inventor
by *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM DILLINGER, OF WESSINGTON SPRINGS, SOUTH DAKOTA.

RAILWAY-TIE AND FASTENER.

1,013,138.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed July 15, 1911. Serial No. 638,790.

To all whom it may concern:

Be it known that I, WILLIAM DILLINGER, a citizen of the United States, residing at Wessington Springs, in the county of Jerauld and State of South Dakota, have invented a new and useful Railway-Tie and Fastener, of which the following is a specification.

This invention relates to rail ties and fasteners and one of its objects is to provide fastening means including bolts having elements combined therewith whereby said bolts are held against rotation.

A further object is to provide a rail fastener, the rail engaging element of which constitutes a portion of the bolt locking key.

Another object is to provide an improved form of metal tie having means thereon for cushioning the rails and for preventing the rails from creeping longitudinally relative to 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 longitudinal section through one end portion of a tie having the present improvements combined therewith. Fig. 2 is a perspective view of a portion of the tie. Fig. 3 is a perspective view of one of the fastening bolts. Fig. 4 is a perspective view of a key to be used in connection with the bolts. Fig. 5 is a transverse section, on a reduced scale, through a portion of the tie and showing the cushioning block thereon.

Referring to the figures by characters of reference 1 designates a metallic tie open at the bottom and closed at its ends and sides, said tie being provided, near its ends, with spaced transversely extending slots 2 spaced apart distances slightly greater than the width of the rail base to be placed on the tie. As shown particularly in Fig. 2, each slot has a central enlargement 3. The

bolts used for fastening rails to the tie are of special form and one of them has been illustrated in detail in Fig. 3. Each bolt consists of a shank 4 having one end portion screw threaded, as ordinarily, while its other end portion has a head 5 made up of oppositely extending angular wings so shaped and proportioned as to be readily inserted through any of the slots 2. A lug 6 extends radially from the shank 4 at a point removed from the head 5 and is spaced from the head a distance substantially equal to the thickness of the top of tie 1. Lug 6 is disposed in the same plane with the head 5. Thus it will be seen that by turning the bolt so that its head 5 will extend transversely of the tie, the head can be inserted through one of the slots 2 until the lug 6 is brought into position close to the top of the tie whereupon the bolt can be turned to bring the ends of its head under opposed walls of the slot and to bring the lug 6 into position over one wall of the slot. After the bolt has thus been inserted into the tie, the same is held against rotation by means of a key shown in detail in Fig. 4. This key consists of an inverted conical washer 7 having parallel arms 8 depending therefrom and spaced apart a distance slightly greater than the diameter of the shank 4. The washer 7 is adapted to be placed over the threaded end of bolt 4 and the arms 8 thus slide downwardly along opposed portions of the shank and into the end portions of the slots 2. Lug 6 thus projects between the arms and holds the bolt against rotation. When the key is in position, the washer 7 will lap one of the base flanges of the rail A. The other base flange of the rail will be lapped by another similar washer combined with a bolt seated in the adjacent slot 2. By screwing ordinary nuts 9 onto the threaded ends of the bolts, the washers 7 can be caused to bind tightly upon the rail and, if desired, locking washers 10 of any preferred type may be interposed between the nuts 9 and the washers 7.

A cushioning block 11 of wood or other suitable material is preferably interposed between the base of the rail A and the top of the tie 1 so as to provide a yielding support for the rail and, at the same time, reduce to the minimum all danger of the rail creeping longitudinally relative to the tie. As shown in Fig. 5 the ends of the block 11 may be shaped to lap the side faces of the

tie body so as to thus prevent displacement of the block relative to the tie. Obviously cushioning blocks of different thicknesses may be interposed between the rails and the tie and the fastening means shown in detail in Figs. 3 and 4 can of course be adjusted so as to engage the rails no matter what distances they may be located above the tie 1.

What is claimed is:—

10 1. The combination with a metallic railway tie having spaced transverse slots in the top thereof, of rail fastening bolts having elongated heads insertible into the slots, a radial lug extending from each bolt, each
15 bolt being revoluble within the slot to shift the end portions of its head under the side walls of the slot and to bring the lug into position over one wall of the slot, a rail engaging element extending around the bolt
20 and above the lug, means extending from said element and into the slot at opposite sides of the lug to prevent rotation of the bolt, and means for securing said rail engaging means upon the bolt.

25 2. The combination with a metallic railway tie having spaced slots therein, of a bolt having an elongated head insertible into each slot, a lug extending radially from the bolt, said bolt being revoluble within the slot
30 to bring the head and lug into engagement with the lower and upper faces respectively of the top of the tie, a rail engaging element extending around and removably mounted on the bolt above the lug, means extending
35 therefrom and into the slot for preventing rotation of the bolt, and means engaging the bolt for securing said rail engaging means to the bolt.

40 3. The combination with a metallic railway tie having spaced slots extending transversely of the top thereof, of rail fastening means including a bolt having an elongated head insertible downwardly through the slot, a lug extending radially from the bolt,
45 said bolt being revoluble to bring the head and lug into engagement with the lower and upper faces respectively of the top of the tie, a rail engaging element insertible onto the bolt, arms depending therefrom and inserti-

ble into the slot at opposite sides of the lug 50 to hold the bolt against rotation, and means for binding said element upon a rail.

4. The combination with a metallic railway tie open at the bottom and closed at its sides and ends, said tie having spaced slots 55 extending transversely of the top thereof, of a bolt having an elongated head, a lug extending radially from the bolt and parallel with the head, each slot being adapted to receive a bolt, and said bolt being revoluble 60 to bring its head and lug into engagement with the lower and upper faces respectively of the top of the tie, a conical rail engaging element detachably and adjustably mounted on the bolt, arms depending therefrom and 65 insertible into the slot at opposite sides of the lug to hold the bolt against rotation, and means for securing said element upon the bolt and in engagement with a base flange 70 of a rail.

5. The combination with a metallic railway tie open at the bottom and closed at its sides and ends, said tie having spaced slots extending transversely of the top thereof, of a bolt having an elongated head, a lug 75 extending radially from the bolt and parallel with the head, each slot being adapted to receive a bolt, and said bolt being revoluble to bring its head and lug into engagement with the lower and upper faces respectively 80 of the top of the tie, a conical rail engaging element detachably and adjustably mounted on the bolt, arms depending therefrom and insertible into the slot at opposite sides of the lug to hold the bolt against rotation, 85 means for securing said element upon the bolt and in engagement with a base flange of a rail, and a cushioning block interposed between the rail and the top of the tie and between the slots, the lugs being extended 90 away from said block.

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

WILLIAM DILLINGER.

Witnesses:

CHAS. R. HATCH,
MATH ANTON.