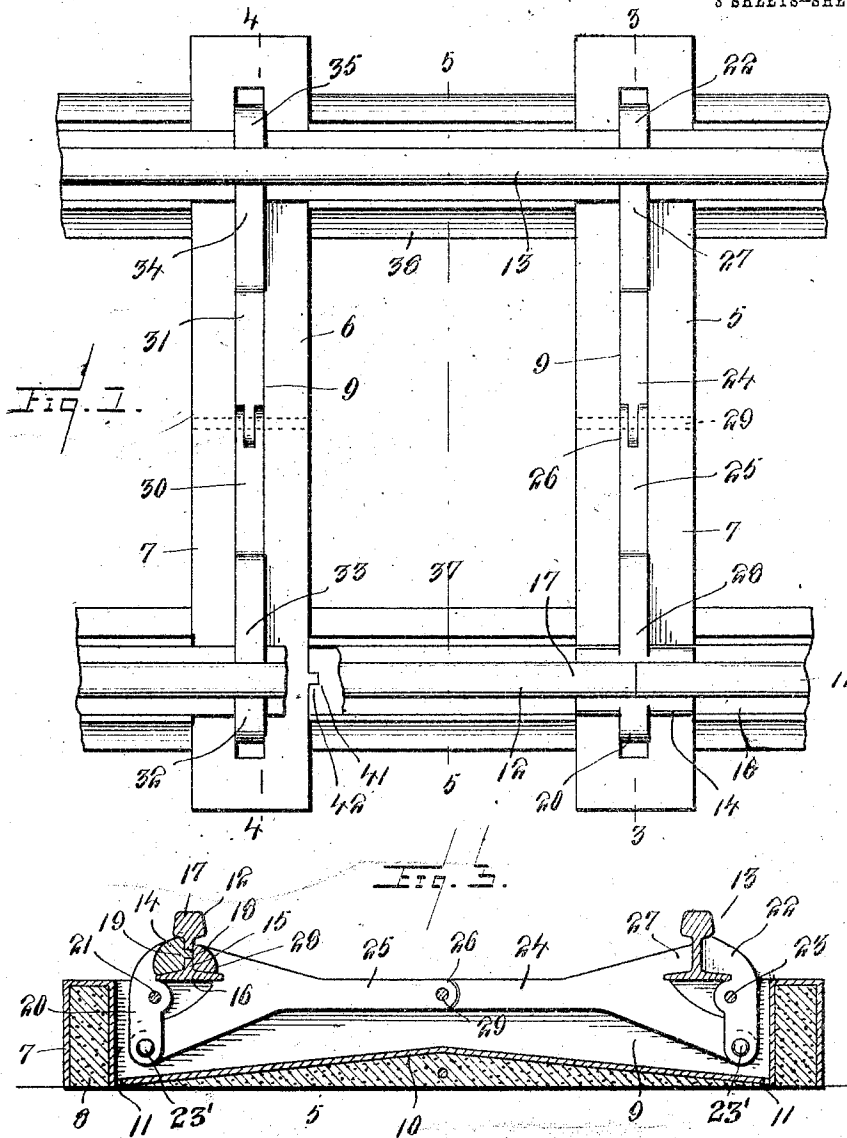


F. M. McGLOCKLIN.
RAILWAY TRACK SUPPORT AND FASTENER.
APPLICATION FILED AUG. 2, 1911.

1,025,820.

Patented May 7, 1912.

3 SHEETS-SHEET 1.



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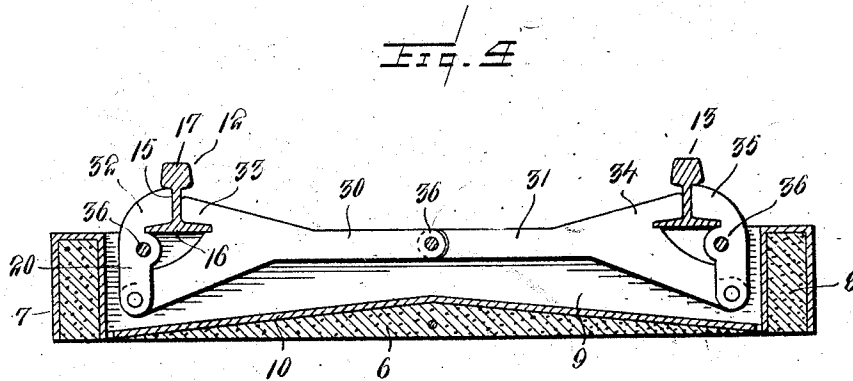
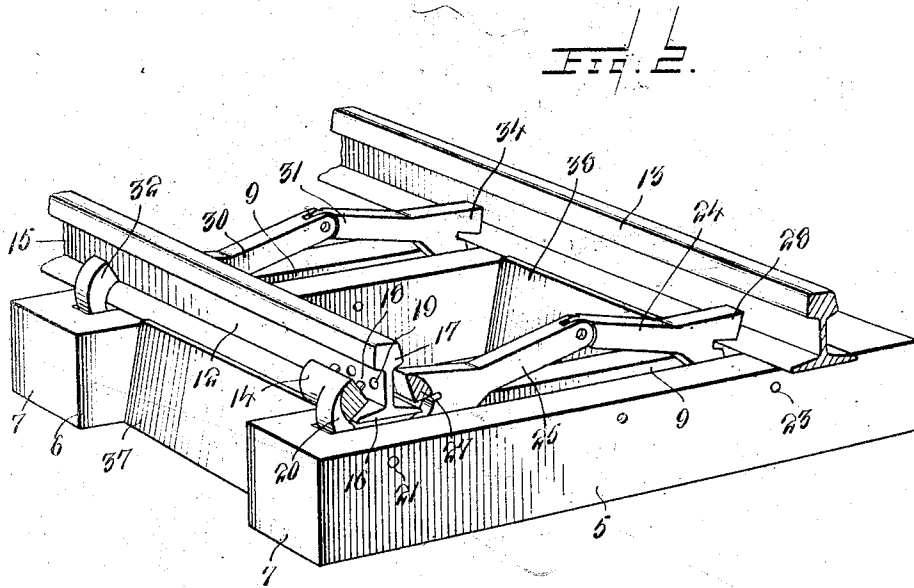
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Fig. 5.

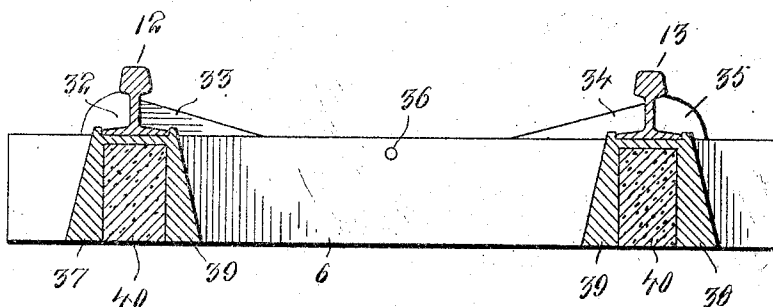
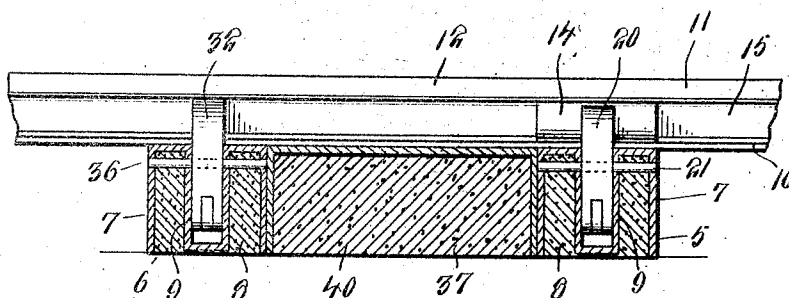


Fig. 5.



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UNITED STATES PATENT OFFICE.

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RAILWAY-TRACK SUPPORT AND FASTENER.

1,025,820.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed August 2, 1911. Serial No. 641,999.

To all whom it may concern:

Be it known that I, FRANCIS M. McGLOCKLIN, citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Railway-Track Supports and Fasteners, of which the following is a specification.

The general object of the invention is to eliminate the use of spikes, fish plates and bolts and nuts in fastening railway rails to cross ties. To this end I provide a cross tie equipped with jaws adapted to pinch or grip both opposite rails and the meeting ends of two rails therebetween; and further to provide means for supporting the portions of the rails between the cross ties. This last-named means being further adapted to be connected to adjacent cross ties whereby to provide a unitary support for the entire track.

The above and other objects will appear and be better understood from the following description taken in connection with the accompanying drawings in which:

Figure 1 is a plan view of a portion of a track with one form of my device applied thereto; Fig. 2 is a perspective of the same showing the parts before the rails are gripped; Fig. 3 is a longitudinal section approximately on the line 3—3 of Fig. 1; Fig. 4 is a similar view on the line 4—4 of Fig. 1; Fig. 5 is a similar view on the line 5—5 of Fig. 1; Fig. 6 is a detail vertical longitudinal section of one of the rail supports also showing portions of adjacent cross ties connected thereto.

The cross ties 5 and 6 are herein shown to be composite in structure each tie comprising a metallic trough or casing 7 filled with suitable plastic material such as concrete 8 and having a longitudinal channel 9 the floor of which is inclined as at 10 so as to direct water which enters the channel through outlet openings 11, as indicated in Fig. 3.

The tie 5 is herein shown as having one end supporting the meeting ends of the rails 11 and 12 and the opposite rail 13. The meeting ends 11 and 12 are connected by an elongated jaw 14 which bears on the webs 15 and also on the base flanges 16 and lower side of the tread 17 and has pins or spurs 18 to pass through the usual bolt openings 19 in the said meeting ends 11 and 12. The shank 20 of the jaw 14 extends into the

channel 9 and is suitably supported therein such as by a pivot pin 21 passing through the body of the tie and channel 9. A rail engaging jaw 22 is suitably connected such as by a pivot pin 23 in the opposite end of the channel 9 and is adapted to engage the lower portion of the rail 13.

A toggle herein shown to consist of the levers 24 and 25 is arranged in the channel 9 the levers being suitably connected together at one end such as by a pivot 26 and have their opposite ends connected to the jaws 14 and 22 by the pivot pins 23. The levers are formed with the jaws 27 and 28 adapted to engage the base flanges 16 of the meeting ends and rail 13 as shown. Referring to the drawings the jaw 27 conforms to the jaw 22 while the jaw 28 is elongated and conforms to the elongated jaw 14 but is somewhat less in width than the latter so as not to extend too far upward on the tread and in the way of the flange of the wheel. The jaw 28, is also formed without pins or studs but in other respects is similar to the jaw 14. With this construction it will be seen that when the toggle is forced downwardly and into the channel the jaws will grip the meeting ends and rail 13 whereby the same will be rigidly held against lateral and longitudinal movement. Any suitable means such as a pin 29 may be employed to lock the toggle against upward movement the said pin being herein shown as passing through an opening in the toggle and also through an opening in the cross tie 5. When it is desired to disengage the rails from the positions shown the pin 29 is removed and the toggle moved upwardly by a suitable tool into the position shown in Fig. 2 wherein it will be seen that the rails may be disengaged by moving the same in the direction of their lengths.

The structure just described is intended for use in old roadbeds wherein the well known form of wooden cross ties are employed it being intended that in these roadbeds the ties at the meeting ends will be removed and replaced with the structure just described wherein it will be seen that the operation of coupling the meeting ends will not only be facilitated but also the uncoupling operation will be equally facilitated at the same time the danger of the meeting ends spreading laterally due to the heretofore loosening of spikes, bolts and nuts, will be practically prevented.

In laying a new roadbed or re-constructing an old one I substitute for the wooden cross ties heretofore employed the cross ties 6 which, of course, are used in addition to the structure previously described but are arranged between the rail joints in the ordinary manner. The cross ties 6 are identical to the cross ties 5 and are positioned suitable distance from each other and provided with the rail engaging members 30 and 31. The rail engaging members 30 and 31 are similar in construction to those described for the cross tie 5 with one exception to wit; the elongated jaws 14 and 28 are dispensed with and in lieu thereof the jaws 32 and 33 are provided which are identical to the jaws previously described for gripping the rail 13 and so also are the jaws 34 and 35 similar to the jaws 32 and 33. The jaws 32—35 turn on the pivot pins 36—36 and are connected by pivot pins 4—4 to the members 30—31.

In addition to providing the cross ties 5 and 6 in a new or re-constructed roadbed I also make use of piers or rail supports 37 and 38. These members are herein shown as composite in structure each including a metallic casing 39 herein shown as substantially trapezoidal in cross section and filled with plastic material such as concrete 40. The base portions of the piers or rail supports are arranged upon the ground their upper ends having longitudinal grooves or seats to receive the base flanges of the rails, the lengths of the piers or supports corresponding approximately to the distance between the ties and are herein shown as interlocking with the latter by means of mortises 41 and tenons 42 which for purposes of illustration have been shown as formed at the opposite ends of the piers and on the cross ties respectively. In addition to performing their function of connecting the cross ties and supporting the rails, the piers or supports further prevent displacement of the pins 21 passing through the jaws 20, 22, 32 and 35 since it will be seen, by referring to the drawings, that the ends of these piers form walls which bear on the opposite ends of the said pins 21. It being understood that in roadbeds where the piers or supports are not employed, the pins 21 will be secured against displacement in any preferred manner.

Although I have shown and described one

form of the device it is to be understood that I am not to be limited to the specific structure and arrangement of parts herein shown since it will be manifest that various changes may be made within the scope of the appended claims without departing from the spirit or sacrificing any advantages of the invention.

What is claimed as new is—

1. In a rail joint, in combination with a track including the meeting ends of rails; of a cross tie supporting the rails of the track and arranged below the meeting ends, a pair of track engaging jaw members pivoted to the cross tie one of which is adapted to bear on the said meeting ends and the other on the opposite track rail, and a toggle connected to said jaws and formed with rail engaging jaws cooperating with the first-named jaws.

2. In combination with a cross tie; of rail engaging members pivoted together at one end and each including pivotally connected jaws one of which is pivoted to the cross tie.

3. In combination with a cross tie; of vertically movable rail engaging members pivoted together at one end and each including pivotally connected jaws one of which is pivoted to the cross tie.

4. In a railway track including the meeting ends of track rails, in combination with a cross tie supporting the rails of said track and under-lying the meeting ends and provided with a channel; of jaw members pivoted in said channel one of which is adapted to engage one of said rails and the other adapted to inter-lock with the said meeting ends and cooperating jaw members pivoted together at one end and further pivoted to the first-named jaw members.

5. In a railway track, in combination with the rails and a cross tie for supporting the same and having a longitudinal channel; of jaw members pivoted in said channel and adapted to engage the base flanges of said rails and cooperating jaw members pivoted together at one end and further pivoted to the first-named jaw members and movable into and out of said channel.

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

FRANCIS M. MCGLOCKLIN.

Witnesses:

HAROLD CHEETHAM,

ALEX. E. KRAKOWSKI.