G. W. SLADE.

RAIL TIE.

APPLICATION FILED FEB. 9, 1915.

1,182,808.

Patented May 9, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

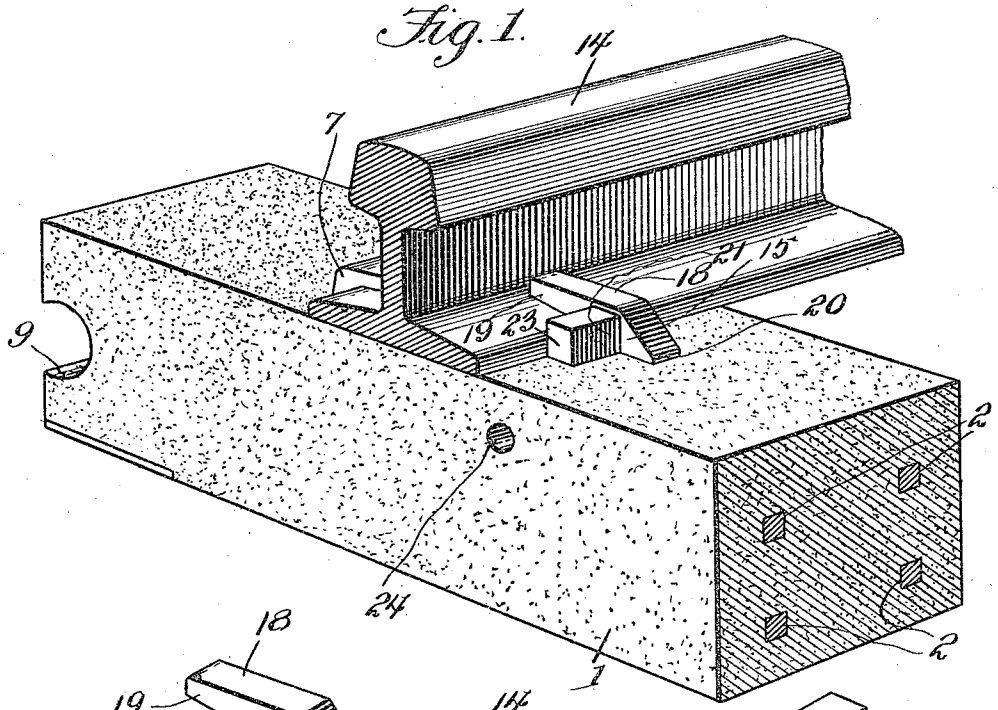


Fig. 3.

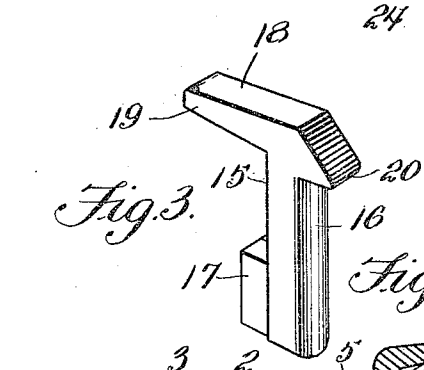


Fig. 2.

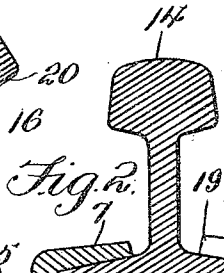
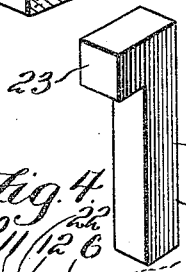


Fig. 4.



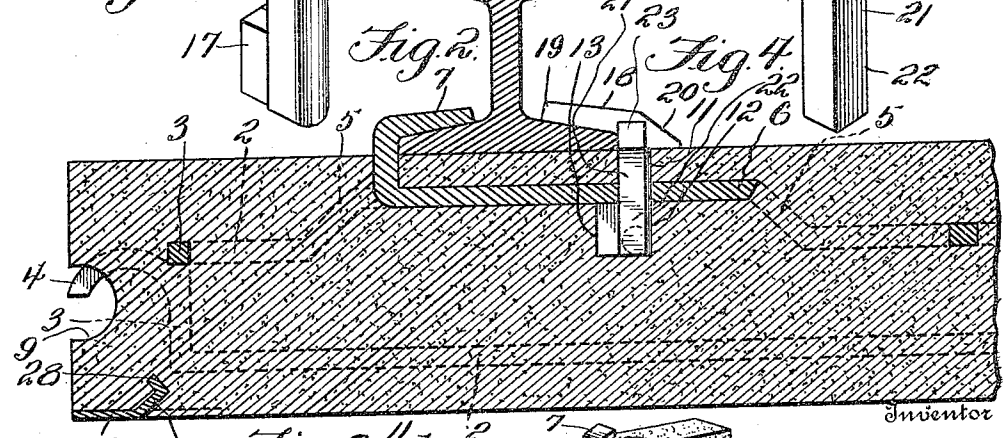
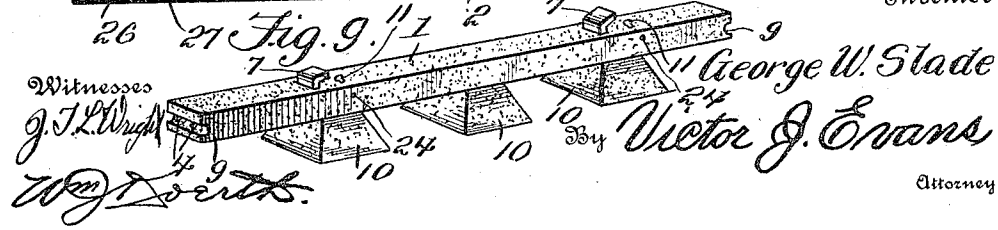


Fig. 9.



Witnesses

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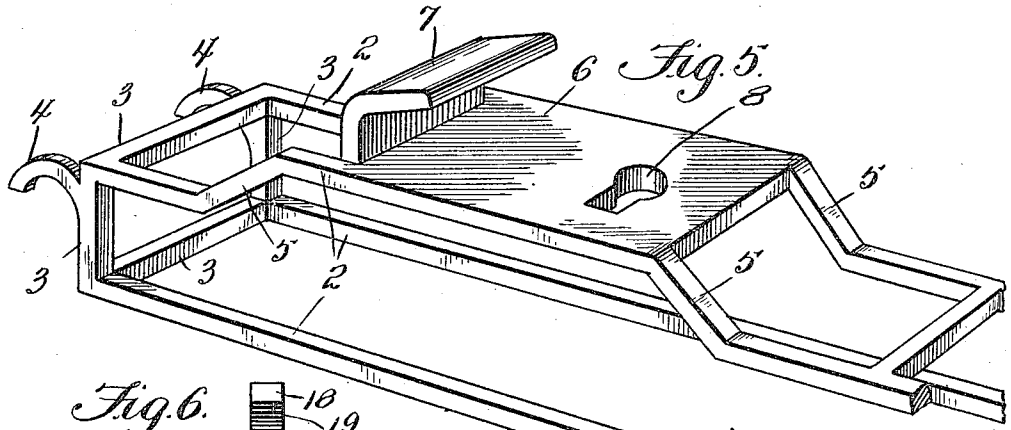
RAIL TIE.

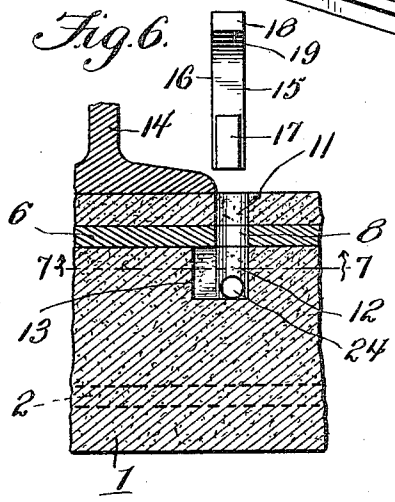
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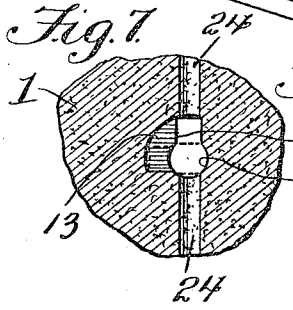
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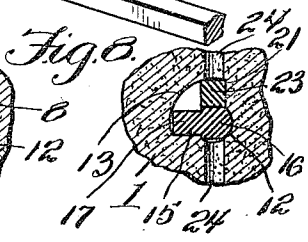
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2 SHEETS—SHEET 2.









Witnesses

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UNITED STATES PATENT OFFICE.

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RAIL-TIE.

1,182,808. Specification of Letters Patent. Patented May 9, 1916.

Application filed February 9, 1915. Serial No. 7,047.

To all whom it may concern:

Be it known that I, GEORGE W. SLADE, a citizen of the United States, residing at Baker City, in the county of Baker and State of Oregon, have invented new and useful Improvements in Rail-Ties, of which the following is a specification.

The present invention relates to rail ties and means for securing the rails upon the ties, the object of the invention being to simplify and improve the existing art, and the invention relates in the novel construction, combination and arrangement of parts set forth in the following specification and falling within the scope of the appended claims.

In the drawings: Figure 1 is a perspective view of a portion of a tie constructed in accordance with the present invention illustrating a rail secured thereon, Fig. 2 is a central longitudinal sectional view of the same, Fig. 3 is a perspective view of the key, Fig. 4 is a similar view of the locking member for the key, Fig. 5 is a perspective view of the reinforcement of the concrete tie, Fig. 6 is a detail vertical longitudinal sectional view illustrating the manner of inserting the key in the tie, Fig. 7 is a horizontal sectional view on the line 7—7 of Fig. 6, Fig. 8 is a similar view but illustrating the key and the locking member in position, the said key and locking member being in section, Fig. 9 is a perspective view illustrating the tie provided with supporting members or feet.

Referring now to the drawings in detail, the numeral 1 designates a portion of a railway tie constructed in accordance with the present invention, the same being formed of a concrete body which is provided with metallic reinforcements. Certain of the reinforcements include a frame comprising spaced side members 2 and connecting members 3 which are formed with hooks 4. The upper side members 2 adjacent the opposite ends of the reinforcement are projected angularly toward each other, as at 5, and are formed with a solid horizontally disposed plate 6, the said plate having one of its ends formed with an upturned angular portion providing a hook 7. The plate at a suitable distance from the hook 7 is formed with a key opening 8. It is to be understood that the reinforcing member is embedded within the tie in the process of the manufacture of the said tie and the opposite ends of the tie are approximately centrally formed with semi-cylindrical depressions 9 through which the hooked ends 4 of the reinforcements extend. This arrangement is particularly desirable for the reason that suitable tools may be inserted within the depressions 9 to engage with the hooks 4 and so draw the tie to any desired position upon the roadbed.

Preferably the plastic body of the tie is provided with frusto-pyramidal feet 10 as illustrated in Fig. 10 of the drawings. The plate 6 is arranged a suitable distance below the upper and horizontal face of the plastic body of the tie but the said body is provided with a key-shaped opening 11, entering from its upper face and communicating with the T-shaped opening 8 of the plate 6. Furthermore, the body below the plate 6 is provided with a pocket 12, the inner wall of the same being cylindrical as indicated by the numeral 13, the purpose of this arrangement being presently described.

The rail which is supported upon the tie is indicated by the numeral 14 and one of the base flanges of the rail is adapted to be engaged by the hook 7 of the reinforcing members, the second or opposite longitudinal edge of the said rail being disposed adjacent the key hole slot or opening 11 in the tie.

The numeral 15 designates what I term a key member, the same including a shank 16 having its lower end provided with a bit 17 and its upper end being provided with a laterally extending head 18. One of the members of the head, indicated by the numeral 19 is shaped to engage with the base flange of the rail 14, the other laterally extending portion, indicated by the numeral 20 being shaped to lie flush with the upper face of the tie and the key is inserted through the key hole slot and rotated until its bit is received within the pocket 12 so that the portion 19 of the head 18 of the key is arranged at a direct right angle to the base flange of the rail with which the said portion 19 engages and the portion 20 is arranged centrally and longitudinally of the tie.

The numeral 21 indicates a locking member, the same being provided with a shank 22 and a laterally extending head 23 which projects beyond one of the sides of said shank. This member is inserted within the substantially rectangular slot provided by the key hole opening after the key has been

rotated into engaging position with the rail, the head 23 resting upon the top of the tie and being disposed transversely thereof. The tie is provided with openings 24, which are adapted to communicate with opening 11 of the tie and opening 8 of the plate 6, and may provide an outlet for moisture or may provide an entrance passage for a securing element which contacts with the shank of the locking element, so as to prevent the said locking member 21 from working loose or becoming disconnected from the key. The opposite ends of the tie upon the underfaces thereof are preferably provided with reinforcing metallic plates 26, the said plates being centrally slotted and arranged at an inclination, as indicated by the numeral 27 and the ends of said inclined portions being bent to provide what may be termed teeth 28. By such an arrangement the opposite lower corners of the ties are protected.

From the above description, taken in connection with the accompanying drawings, the simplicity of the device, as well as the advantages thereof will, it is thought, be perfectly apparent to those skilled in the art to which such invention appertains without further detailed description.

Having thus described the invention, what I claim is:

1. A combined rail securer and tie comprising a frame formed with spaced bottom bars, spaced end bars, and spaced top bars, the latter being bent at spaced points to dispose portions at higher elevations, a plate formed integral with each elevated portion and formed with a key opening and having one end bent upwardly so as to abut one edge of the flange of the rail, a reinforcing body inclosing said frame with the exception of the bent edge of said plate, said body being formed with a pocket communicating with the atmosphere through said opening, and means rotatably mounted in said opening and pocket and adapted when rotated in one direction to lock the flange of the rail to the wall of said pocket, and when rotated to another position being releasable from the flange of the rail and wall of said pocket.

2. A combined rail securer and tie comprising a frame formed with spaced bottom bars, spaced end bars, and spaced top bars, the latter being bent at spaced points to dispose portions at higher elevations, a plate formed integral with each elevated portion, and formed with a key opening and having one end bent upwardly so as to abut one edge of the flange of the rail, a reinforcing body inclosing said frame with the exception of the bent edge of said plate, said body being formed with a pocket communicating with the atmosphere through said opening, and a double headed key element rotatably mounted in said opening and pocket, and adapted when rotated to one position to dispose one of the heads in locking engagement with the flange of the rail and its other head in locking engagement with the wall of said pocket.

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

GEORGE W. SLADE.

Witnesses:
M. M. PALMER,
T. B. LITTIG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."