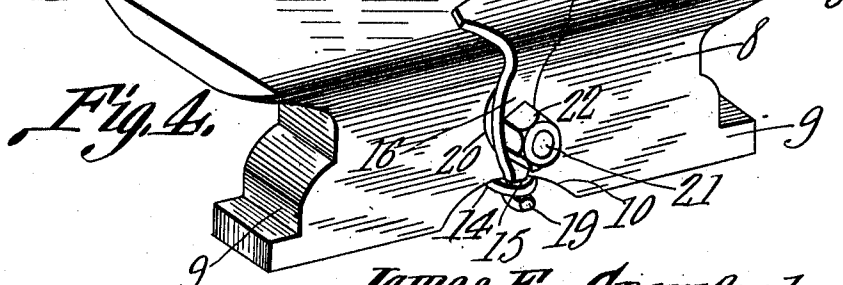
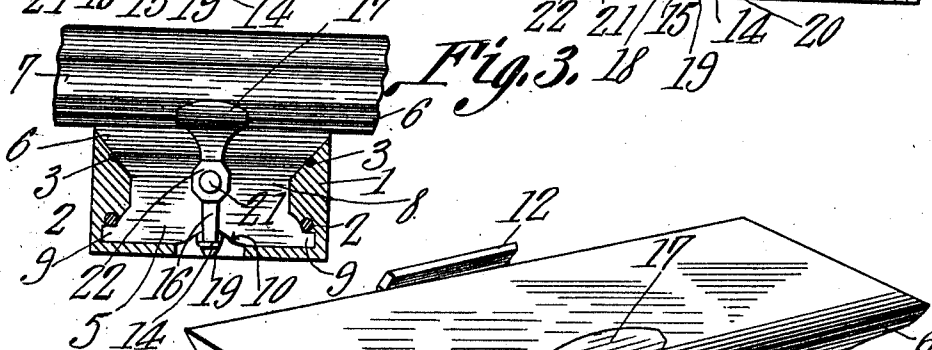
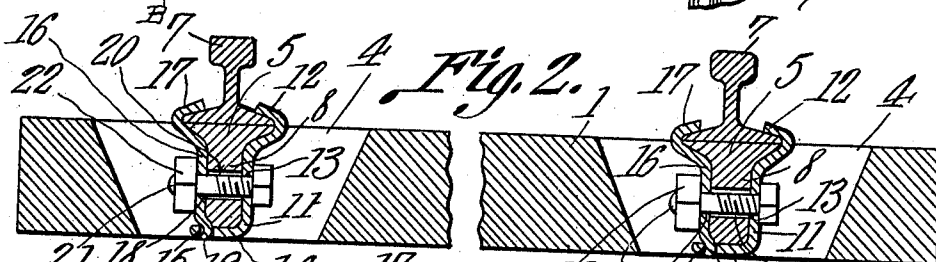
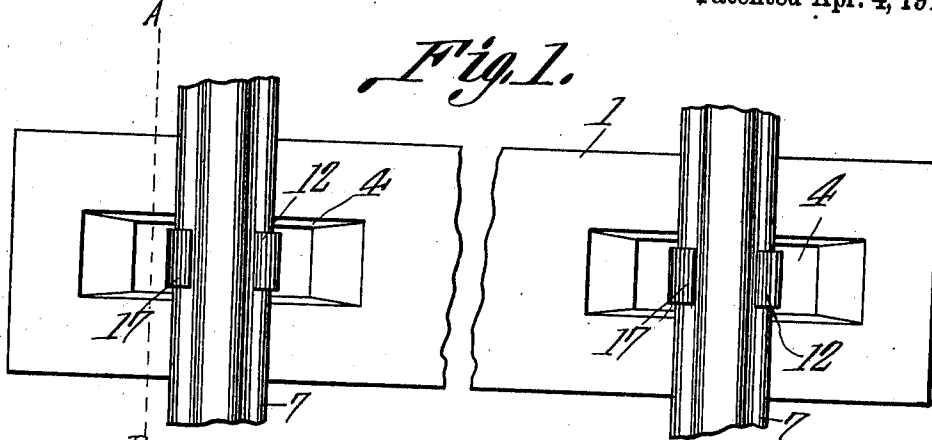


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RAIL TIE AND FASTENER.
APPLICATION FILED AUG. 6, 1910.

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Patented Apr. 4, 1911.



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RAIL TIE AND FASTENER.

988,627.

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To all whom it may concern:

Be it known that we, JAMES E. CRAWFORD and BENJAMIN P. HARDY, citizens of the United States, residing at Silverton, in the county of Briscoe, State of Texas, have invented a new and useful Rail Tie and Fastener, of which the following is a specification.

This invention relates to railway ties and fasteners for use in connection therewith, one of the objects of the invention being to provide a tie body formed of plastic material and in which are arranged metallic rail seats having novel forms of fasteners combined therewith.

Another object is to provide interengaging fasteners cooperating with the seat for binding the rail thereon, there being means located within the tie and engaging the fasteners for securing them to the seat.

Another object is to provide novel means for anchoring the seats within the tie so as to prevent said seats from working loose and becoming disconnected from the tie body.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a plan view of a tie constructed in accordance with the present invention, the middle portion of the tie being removed. Fig. 2 is a central longitudinal section through the tie, rails being shown in position thereon. Fig. 3 is a section on line A—B Fig. 1. Fig. 4 is an enlarged perspective view of one of the metallic rail seats and showing the fasteners combined therewith.

Referring to the figures by characters of reference 1 designates a tie body formed of concrete or other plastic material and which is reinforced by longitudinally extending rods 2 located adjacent the sides of the bottom thereof, and by upper longitudinally extending reinforcing rods arranged adjacent the upper longitudinal edges of the body.

Openings 4 are formed within the tie body adjacent the ends thereof, these openings being arranged along the longitudinal center of the body and having their end and side walls converging downwardly as clearly indicated in Figs. 1 and 2. A rail seat 5

is arranged transversely within the tie body and intersects each opening 4, said seat being provided with longitudinal flanges 6 along the upper portion thereof so as to present a broad upper face on which the rail 7 is adapted to rest. The upper face of the seat is flush with the corresponding face of the tie body. The said seat has a web portion 8 extending downwardly from the upper or bearing portion thereof and the said bearing portion, which is formed by the flanges 6 and the adjacent part of the block 5, extends at its ends beyond the web 8 and rests on the upper reinforcing rod 3. Stepped projections 9 extend from the ends of the web 8 at the bottom of said web and project under the lower reinforcing rods 2. It will thus be seen that after the tie has been molded with the rods 2 and 3 and the metal seat in position, it becomes impossible for said seat to be loosened relative to the tie body because it is securely held by the rods 2 and 3. A recess 10 is formed in the lower face of the seat and is for the purpose hereinafter set forth.

Each of the seats 5 has a pair of fastening devices combined therewith and which serve to securely attach the rail to the seat. One of these fastening devices is in the form of a metal strip 11 having a rail engaging head 12 at its upper end and which is bent so as to overhang the adjoining flange 6 and to fit snugly against the lower surface of said flange. An opening 13 is formed within the strip 11 and a tongue 14 extends from the lower end of the strip and is adapted to project into the recess 10, this tongue being formed with an opening 15 adjacent its free end. The other fastening device consists of a metal strip 16 having a head 17 at its upper end corresponding with the head 12 and an opening 18 is formed in this strip and corresponds with the opening 13. A hooked extension 19 is provided at the lower end of the strip 16 and is adapted, when the fasteners are assembled, to project into the opening 15 within the tongue 14.

An opening 20 extends through the web portion 8 of the seat 5 and, when the fasteners are assembled upon the seat, this opening registers with the openings 13 and 18 so as to permit a bolt 21 to be inserted through them. By providing a nut 22 upon the bolt, the fastening strips 11 and 16 can be tightly clamped against opposite faces of the seat 5.

When it is desired to fasten a rail to the tie, said rail is placed upon the upper or seat portion of the block 5 and the fasteners 11 and 16 are inserted into the opening 4 at opposite sides of the block 5. The hooked extension is inserted into the opening 15 in tongue 14, it being understood that this tongue rests within the recess 10. The fasteners 11 and 16 are then swung against the adjoining faces of the blocks 5 so as to bring the heads 12 and 17 into engagement with the base flanges of the rail 7. Bolt 21 is then inserted through the fasteners and the block and, when it is tightened by means of the nut 22, the fasteners are caused to tightly engage the rail 7 and thus hold it fixedly upon the block.

By extending the openings 4 through the tie body moisture is prevented from accumulating within the tie, and access can be conveniently had to the bolt 21 and the nut 22 for the purpose of placing the fasteners in or removing them from position.

It is to be understood of course that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claims.

What is claimed is:—

1. A railway tie including a plastic body having an opening extending therethrough, a rail seat extending transversely across the middle portion of the opening and having its sides spaced from the corresponding walls of the opening, said seat being embedded at its ends within the body, the upper face of the seat being flush with the corresponding face of the body.

2. A railway tie including a plastic body having an opening extending therethrough, a rail seat extending transversely across the middle portion of the opening, the sides of the said seat being spaced from the corresponding walls of the opening, said seat being embedded at its ends within the body, and rail fastening devices embracing said

seat and secured thereto, said devices being insertible in the spaces between the seat and the walls of the opening.

3. The combination with a tie body having an opening extending therethrough, of a rail seat extending across the opening and embedded at its ends within the body, the sides of said seat being spaced from the corresponding walls of the opening, and rail engaging devices separately insertible into the spaces between the seat and the walls of the opening, said devices having interengaging portions.

4. The combination with a tie body having an opening therein, of a rail seat extending transversely of the body and intersecting the opening, said seat being embedded within the body, oppositely disposed inter-engaging rail fastening devices embracing the seat, and means for securing said devices to the seat.

5. The combination with a tie body having an opening therein, of a rail seat extending transversely of the opening and embedded within the body, oppositely disposed inter-engaging rail fastening devices embracing the seat, and means within the opening for securing said devices to the seat.

6. The combination with a tie body having an opening therein, of a seat extending transversely of the opening and having its upper face flush with the corresponding face of the body, oppositely disposed rail fastening devices engaging opposite faces of the seat and projecting into the opening, inter-engaging portions upon said devices, and means within the opening for securing the devices to the seat.

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

JAMES E. CRAWFORD.
BENJAMIN P. HARDY.

Witnesses:

E. D. McMurtry,
R. L. McMurtry.