W. H. NEWCOMER.

TIE AND RAIL FASTENER.

APPLICATION FILED MAY 26, 1911.

998,381. Patented July 18, 1911.

Fig. 1.

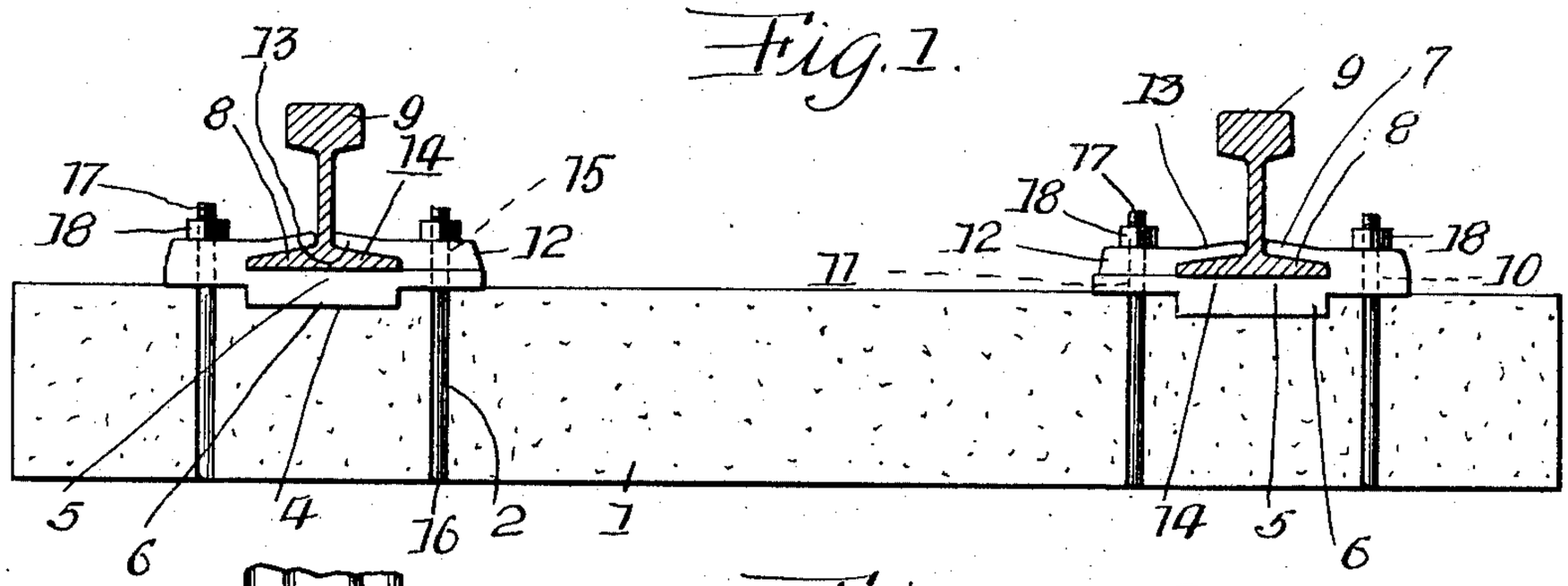


Fig. 2.

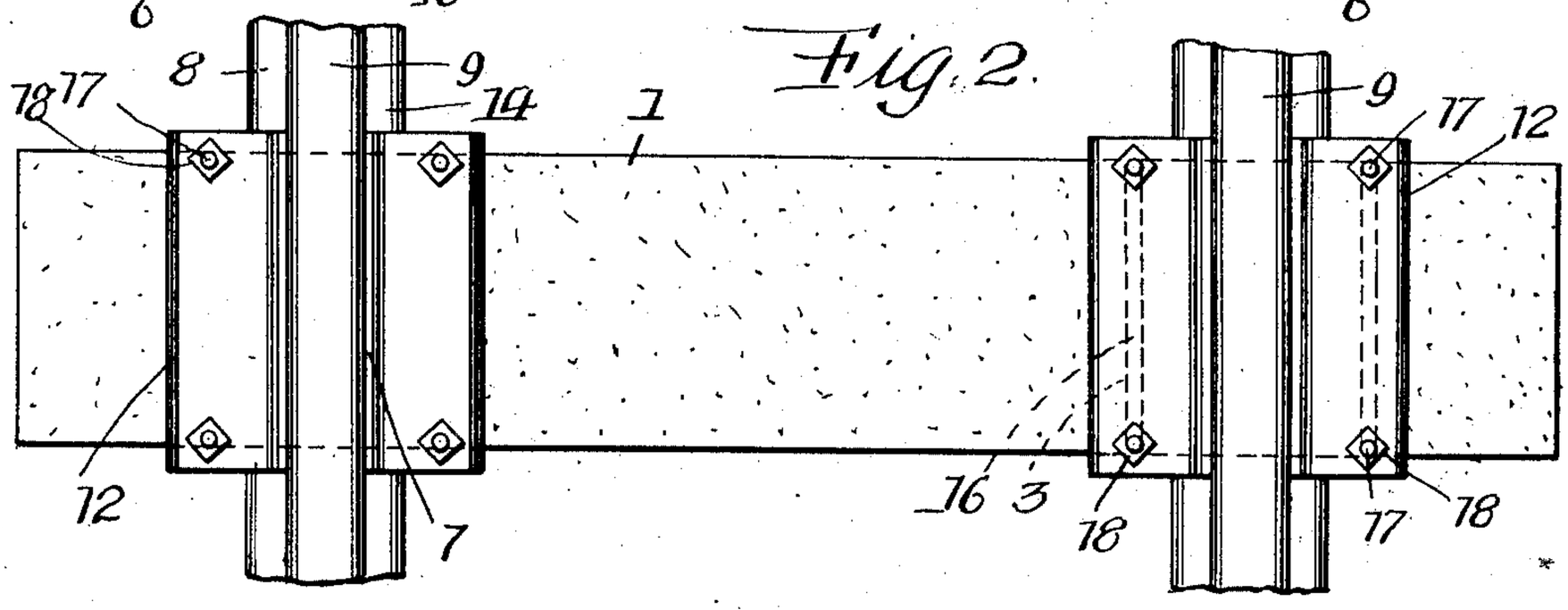


Fig. 3.

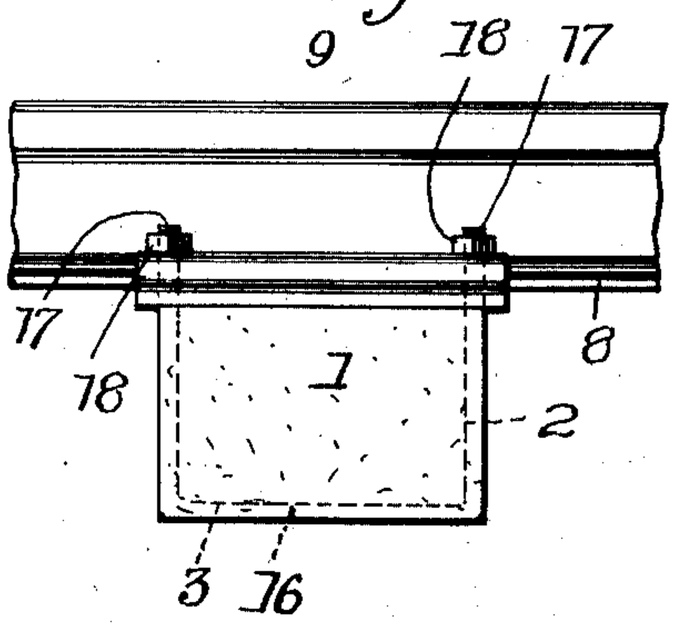
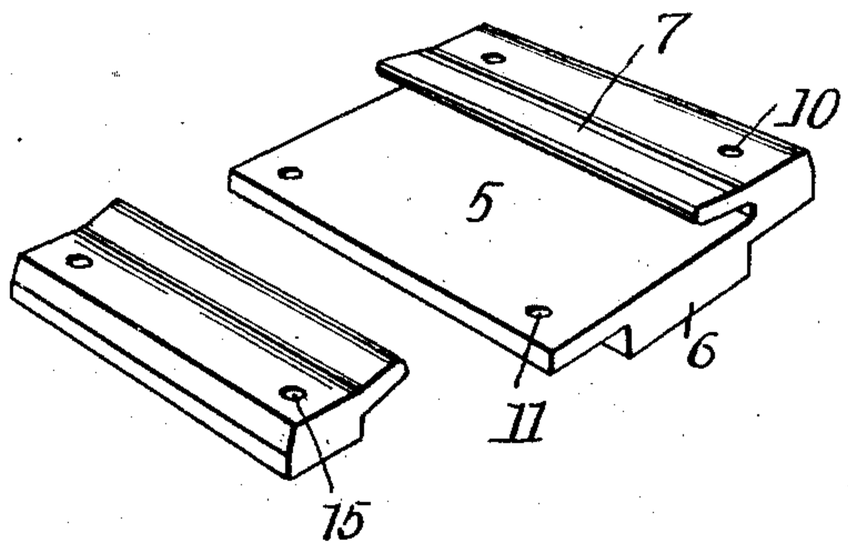


Fig. 4.



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TIE AND RAIL-FASTENER.

998,381. Specification of Letters Patent. **Patented July 18, 1911.**

Application filed May 26, 1911. Serial No. 629,608.

To all whom it may concern:

Be it known that I, WILLIAM H. NEWCOMER, a citizen of the United States of America, residing at Star Junction, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to ties and rail fasteners, and the objects of my invention are the substitution of concrete for the present type of wooden ties, and to provide an extremely light and durable cross tie at a minimum cost.

Other objects of my invention are to provide a tie possessing sufficient strength and firmness to support the great weight of rolling stock adapted to pass over the same, and to provide a tie with a bearing surface which will afford a sure and ready means for attaching chairs to the same.

Further objects of my invention are to furnish a concrete tie with a novel rail fastener that obviates the necessity of using splice bars, and to provide a fastener that will preserve the alinement of rails and the gage of a track.

Still further objects of my invention are to furnish a tie with a rail fastener that will prevent lateral and vertical displacement of rails and allow for the expansion and contraction of the same.

I attain the above objects by a mechanical construction that will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein:—

Figure 1 is a side elevation of a tie in accordance with this invention. Fig. 2 is a plan of the same. Fig. 3 is an end view of the tie, and Fig. 4 is a perspective view of the parts of one of the chairs of the tie.

A tie in accordance with this invention is preferably made of concrete or other plastic material that can be thoroughly seasoned to provide an indurate structure having the requisite water-proof qualifications as are essential in connection with the supports of rails and switch-frogs. The tie comprises an oblong body 1 having the side walls thereof, adjacent to the ends, provided with vertical grooves 2 corresponding in depth to said side walls. The lower ends of these grooves are in communication with transverse grooves 3 formed in the bottom of the body 1. The top of the body 1 is provided with transverse countersunk seats 4, these seats being located adjacent to the ends of the tie and at a point in proximity to the upper ends of the grooves 2.

The reference numeral 5 denotes a rail chair having a depending transverse tongue 6 adapted to engage in the seat 4 and prevent the chair 5 from creeping longitudinally of the tie. The chair 5 has the outer edges thereof provided with outer fasteners, comprising integral flanges 7 adapted to overhang and engage the outer base flanges 8 of a rail 9. The outer edges of the chair are provided with vertical openings 10 and the inner edges with vertical openings 11, the purpose of which will presently appear.

The reference numeral 12 denotes inner fasteners having flanges 13 adapted to overhang and engage the inner base flanges 14 of the rails 9. The inner fasteners 12 are provided with vertical openings 15 adapted to register with the openings 11 of the chair 5.

The chair 5 and the fasteners thereof are of a greater width than the body of the tie, whereby the openings 10, 11 and 15 will vertically aline with the vertical grooves in the side walls of the body 1.

The reference numeral 16 denotes tie rods arranged in the grooves 3 in the bottom of the body 1, said tie rods having the ends thereof bent upwardly in the grooves 2 to extend through the openings 10, 11 and 15. The upper ends of the tie rods are screw threaded, as at 17 to receive nuts 18 adapted to retain the chair and the fasteners thereof in engagement with the tie body 1. The tie rods are U-shaped to embrace the ends of the tie body and besides retaining the chairs and rails in position, these U-shaped tie rods brace the body of the tie.

From the foregoing it will be observed that the spreading of the rails 9 due to an excessive pressure upon the same is practically impossible, as the chairs are firmly seated in the top of the tie and the outer fasteners formed integral with the chairs.

The rail fasteners are made of light and durable metal and it is apparent that they can be easily and quickly installed. While in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements

are susceptible to such variations as fall within the scope of the appended claim.

What I claim is:—

In a tie and rail fastener, a concrete body having the bottom and side walls thereof grooved adjacent to the ends of the body, the top of the body having transverse counter-sunk seats formed therein, chairs mounted upon the top of said body and having depending tongues adapted to engage in the seats of said body, integral rail fasteners carried by the outer edges of said chairs and adapted to engage the outer base flanges of rails, detachable inner rail fasteners mounted upon the inner ends of said chairs and adapted to engage the inner rail fasteners of rails, U-shaped tie rods arranged in the grooves of said body and having the upper ends thereof extending upwardly through said chairs and the rail fasteners thereof, and nuts screwed upon the upper ends of said tie rods.

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

WILLIAM H. NEWCOMER.

Witnesses:

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