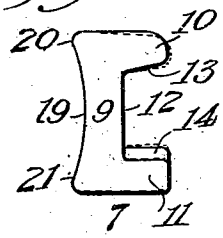
D. L. RICE.

RAIL AND TIE CLAMP.

APPLICATION FILED JAN. 19, 1911.

992,520. Patented May 16, 1911.

Fig. 2.



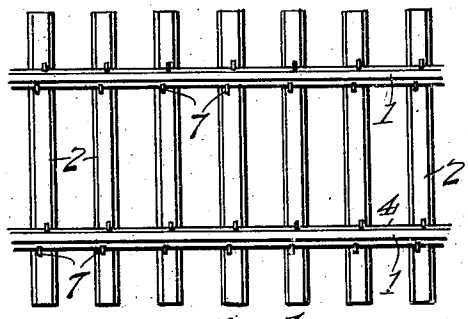


Fig. 1.

Fig. 3.

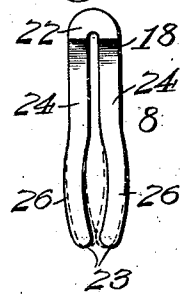


Fig. 4.

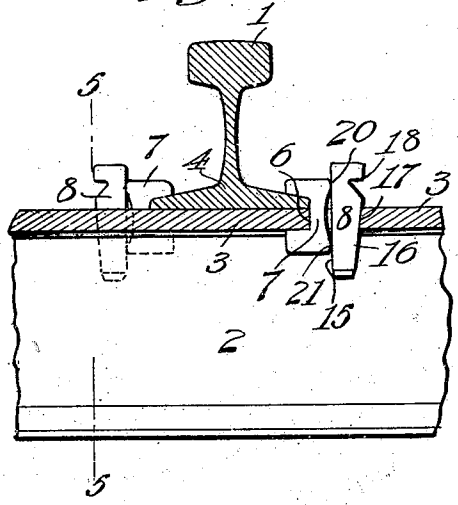


Fig. 5.

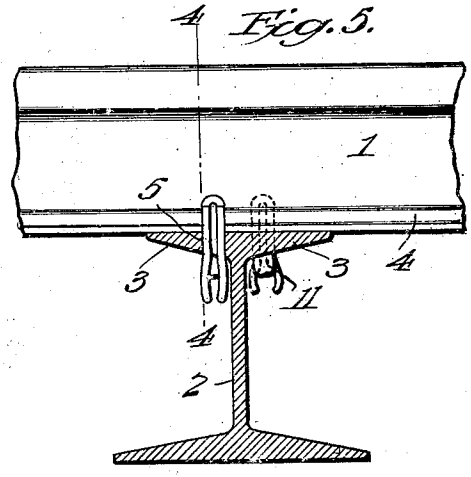
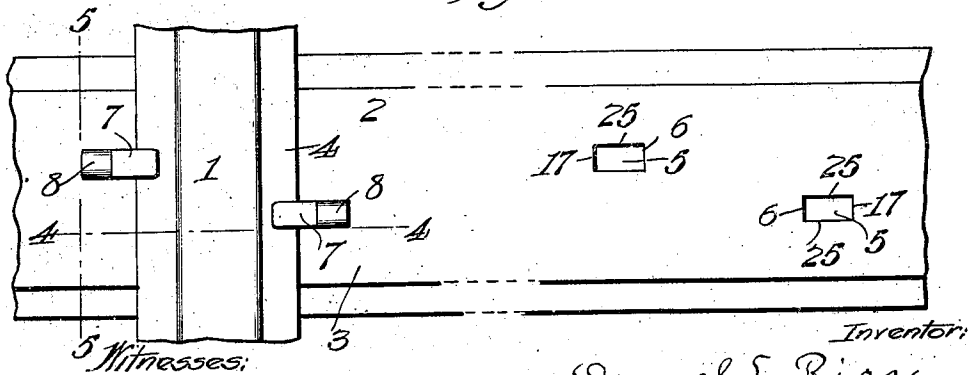


Fig. 6.



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RAIL AND TIE CLAMP.

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To all whom it may concern:

Be it known that I, DANIEL L. RICE, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a certain new and useful Rail and Tie Clamp, of which the following is a specification.

The invention relates to a device for fastening and clamping the base flange of a rail to the metallic upper flange or supporting plate of a cross-tie; and the object of the improvement is to provide a simple fastener which can be readily applied and removed without mutilating any of its parts, and which serves to hold the rail in proper alinement and can be readily tightened at any time to take up the looseness of wear or abrasion, and which will not become loosened by the ordinary jars or vibrations of traffic.

A preferred form of the invention, thus briefly outlined, is illustrated in the accompanying drawing, forming part hereof, in which—

Figure 1 is the plan of a track showing the relation of the parts; Fig. 2, a detached side elevation of the clamp; Fig. 3, a detached edge elevation of the wedge-key; Fig. 4, a cross section of a T-rail and fragmentary side elevation of an I-beam tie having the upper flange in longitudinal section as on line 4—4, Figs. 5 and 6, and showing the fastening devices in side elevation in clamping position; Fig. 5, a side elevation of the rail and cross section of the tie, as on line 5—5, Figs. 4 and 6; and Fig. 6, a fragmentary plan view of the tie showing a rail with clamps in position on one end and the clamp apertures in the other end.

Similar numerals refer to similar parts throughout the drawings.

The track is composed of the longitudinal T-rails 1 and the cross ties 2, which may be in the form of the metallic I-beams shown, and are provided with the upper flanges or plates 3 on which the base flanges 4 of the T-rails are supported. The preferably rectangular and oblong apertures 5 are provided in the supporting plate, one on each side of the base flange of the rail, and these apertures are preferably staggered with reference to each other and are arranged so that the inner ends 6 register with the corresponding edges of the rail flange. Each fastening device is composed of the clamp 7 and the key-wedge 8 one set of which is adapted to be entered into each one of the apertures 6, as shown in side elevation in Fig. 4.

The clamp 7 is composed of the shank 9 and the upper and lower jaws 10 and 11. The inner side 12 of the shank is vertically disposed and formed flat and is arranged to abut squarely against the inner edge of the aperture 6 and the corresponding edge of the rail flange; while the lower side 13 of the upper jaw 10 is longitudinally beveled to fit the inclined upper side of the rail flange, and the upper side 14 of the lower jaw is laterally beveled to fit the inclined lower side of the tie plate; and these parts are so arranged that when the rail and clamp are placed in position on the supporting plate of the tie, the faces of the jaws will neatly fit and tightly clamp the corresponding faces of the rail flange and tie plate when the inner side of the shank abuts against the end of the aperture and the edge of the rail flange.

The key 8 is adapted to be entered into the aperture outside the clamp, and its inner and outer edges 15 and 16 converge downwardly toward each other in the form of a wedge, and the parts are so arranged that when inserted into the aperture the inner edge of the key will abut against the end portions of the outer side of the clamp, and the outer edge of the key will abut against the outer end 17 of the aperture; and it is evident that by driving the key downward the shank of the clamp will be wedged tightly against the inner end of the aperture and the edge of the rail flange. The notch 18 is preferably provided in the upper portion of the outer edge of the key, by means of which it can be withdrawn from the aperture by an ordinary pinch-bar.

The outer side 19 of the clamp is vertically concaved between its end portions 20 and 21, which end portions are located opposite the jaws 10 and 11 of the clamp, and are abutted by the inner edge of the key, the concave portion 19 of the outer side of the clamp standing freely away from the same; and because of this peculiar formation of the outer side of the clamp, by which the end portions only which form the heels of the jaws are abutted by the wedge-key, it is evident that when the clamp becomes loosened by wear or abrasion, the key may be driven downward and the abutment of