

Jan. 14, 1941.

T. KELLY, JR

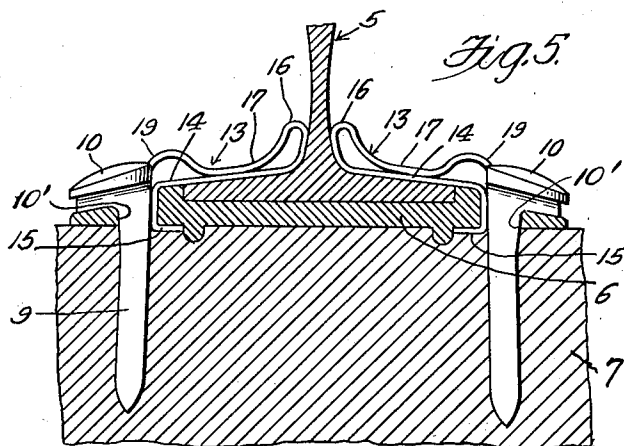
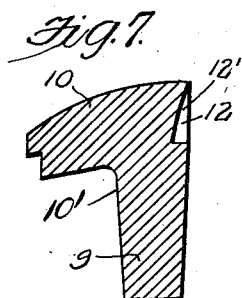
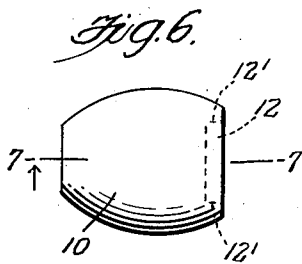
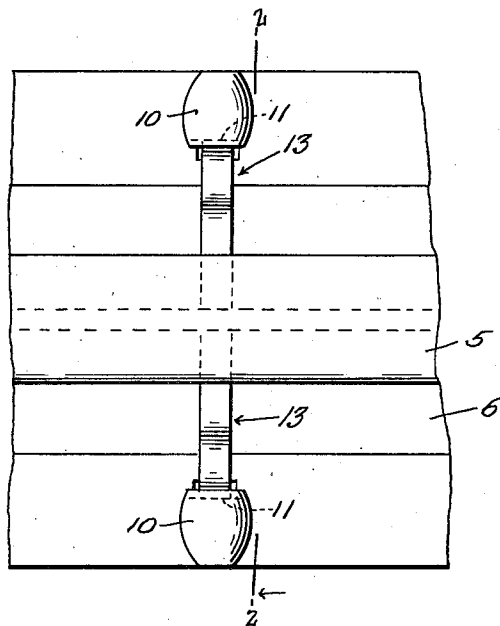
2,228,461

RAILROAD RAIL FASTENERS

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2 Sheets-Sheet 1

Fig. 1.



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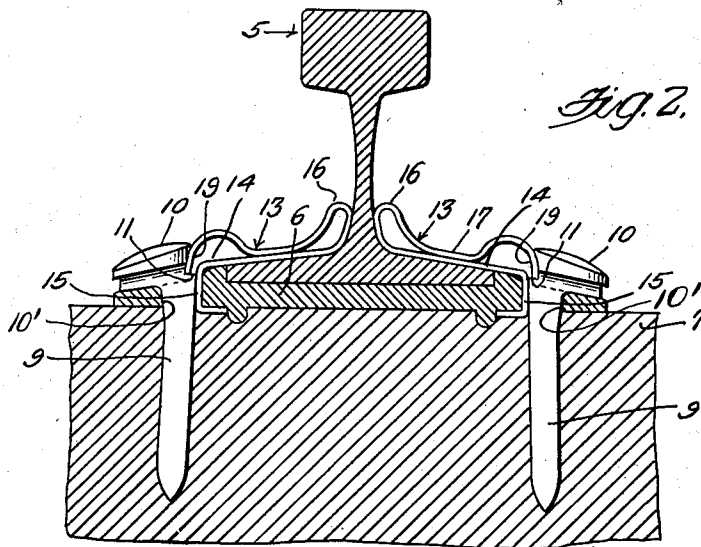


Fig. 2.

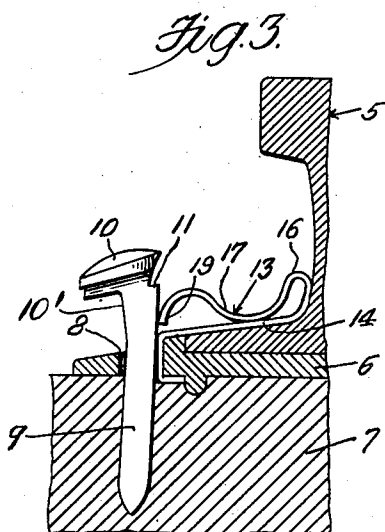


Fig. 3.

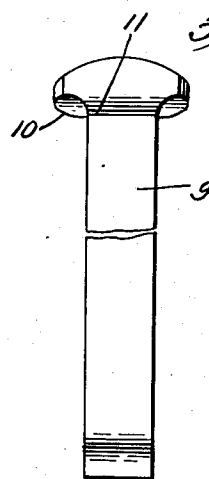


Fig. 4.

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UNITED STATES PATENT OFFICE

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RAILROAD RAIL FASTENER

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Application April 2, 1940, Serial No. 327,533

2 Claims. (Cl. 238—349)

This invention relates to rail fasteners employing spikes and spring devices in its construction, and has for the primary object the provision of a fastener which will yieldably secure a rail to the spikes to prevent the rebound of the rail caused by passing thereover of rolling stock from loosening the spikes from the tie or the loosening of the tie from the road bed.

Another object of this invention is the provision of a spring assembly secured to the rail and connecting with the spike in such a way that it will absorb shocks from the rail and prevent said shocks from loosening the spike in the tie or loosening of the tie in the road bed and which always tends to urge the spike into the tie.

With these and other objects in view, the invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a fragmentary top plan view illustrating a railroad rail secured on a tie by a fastening means constructed in accordance with my invention.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a fragmentary transverse sectional view, illustrating the spike partly driven into the tie and prior to the spring fastening means engaging in the notch of the spike.

Figure 4 is a rear elevation illustrating the spike.

Figure 5 is a fragmentary transverse sectional view illustrating the spikes fully driven into the tie and engaged by the spring fasteners.

Figure 6 is a top plan view illustrating a modified form of spike.

Figure 7 is a sectional view taken on the line 7—7 of Figure 6.

Referring in detail to the drawings, the numeral 5 indicates a railroad rail seated on a chair plate 6 of a conventional construction. The chair plate is supported by a railroad tie 7. The chair plate has the usual spike receiving openings 8. The foregoing described parts are briefly set forth for the purpose of describing the application and use of the present invention.

Each spike of the present invention includes a shank 9 and a head 10 with a tapered portion 10' on one face of the shank 9 and extending from the head towards the sharpened end of said shank. The rear vertical face of the head

has formed therein a notch 11 which can extend the full width of the head, or, as shown in the modified form of my invention, the notch may extend only partly across the head as indicated at 12, so as to provide end walls 12' to said notch 12.

The spikes are driven into the tie through the openings 8 in the usual manner for securing the chair plate efficiently to the tie.

To prevent the spikes from working loose spring fasteners or members 13 are employed which are secured on the chair plate and bear against the rails and the spikes. Each spring member includes a rail-engaging portion 14 and a hook-shaped portion 15 to engage over the edge of the chair plate and to underlie the latter, as clearly shown in Figures 2, 3 and 5. The spring member further includes a curved portion 16 which bears against the web of the rail. The spring member further includes a spring tensioning portion 17 including a compound curvature and forms a continuation of the curved portion 16. The curved portion 16 gives tensioning action on the spring portion 17. The free end portion 19 of the spring member engages in the notch of the head of the spike and tends to urge the spike downwardly and prevents the spike from working upwardly and loose from the tie after being driven home in said tie. As the spike is driven into the tie, the end portion 19 of the spring fastener rides on the rear face of the spike and snaps into the notch of the spike as the latter is driven fully home in the tie. As the spike is driven in the tie, the tapered face 10' engaging the chair plate forces the spike in the direction of the rail and spring fastener or member to flex the portion 17 thereof and thereby increase the tension thereof.

From the foregoing description taken in connection with the drawings, it will be noted that the spring fasteners or members 13 connect with the chair plate, and spikes and bear on the rails in such a way that any lateral or vertical movement of the rail due to shocks from rolling stock will cause said spring members 13 to increase seating pressure on the spikes, consequently preventing the spikes from working upwardly and outwardly of the tie and also it will be seen that the spring members will absorb shocks and prevent such from reaching the spikes. Further, it is to be understood that the rail engaging portions 16 of the spring members or fasteners 13 may be extended to any height on the web of the rail to be the best for holding said rail. Also it is to be understood that the end portions 19 of

the spring members 13 when seated in the notches 12 of the spikes, will discourage any tampering with the spring members to free them from the spikes.

5 The invention applied to the rails, spikes and chair plates as shown will not be readily engaged by passing objects or the flanges of wheels of rolling stock and will eliminate the use of a third member common in spring fasteners now employed by the railroads.

10 It is believed that the foregoing description, when taken in connection with the drawings, will fully set forth the construction and advantages of this invention to those skilled in the art to which such a device relates, so that further detailed description will not be required.

Having thus described my invention, what I claim is:

1. In a rail fastener, a spike having a notched
20 head, a spring member including superimposed portions integrally connected by a tension creat-

ing curved portion and having the free end of one of said portions engaging in the notched head of a spike and one of said portions having a compound curvature thereto, and means for securing the spring member in position with respect to a 5 rail.

2. In a rail fastener, a spike having a notched head, a spring member including superimposed portions integrally connected by a tension creating curved portion and having the free end of 10 one of said portions engaging in the notched head of a spike, one of the portions having a compound curvature thereto, and the other portion of said spring member resting on a base of a rail with the tension creating curved portion 15 bearing against the rail and including a hook-shaped portion to engage over the inner edge of a spike opening of a tie plate and engaging under the latter.

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