Dec. 7, 1926. 1,609,787

L. B. AISENSTOCK

RAIL FASTENING

Filed Nov. 25, 1925

Fig. 1.

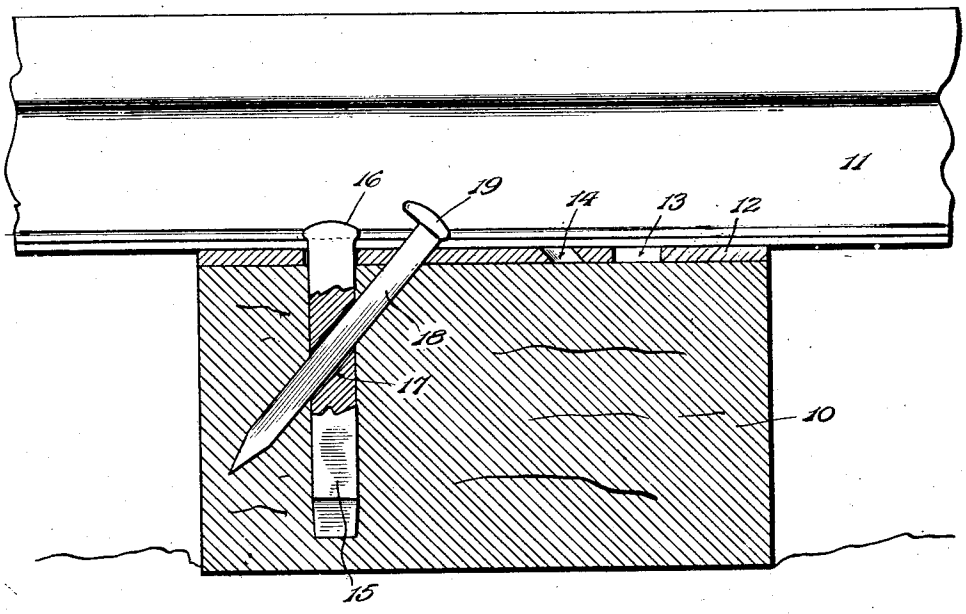
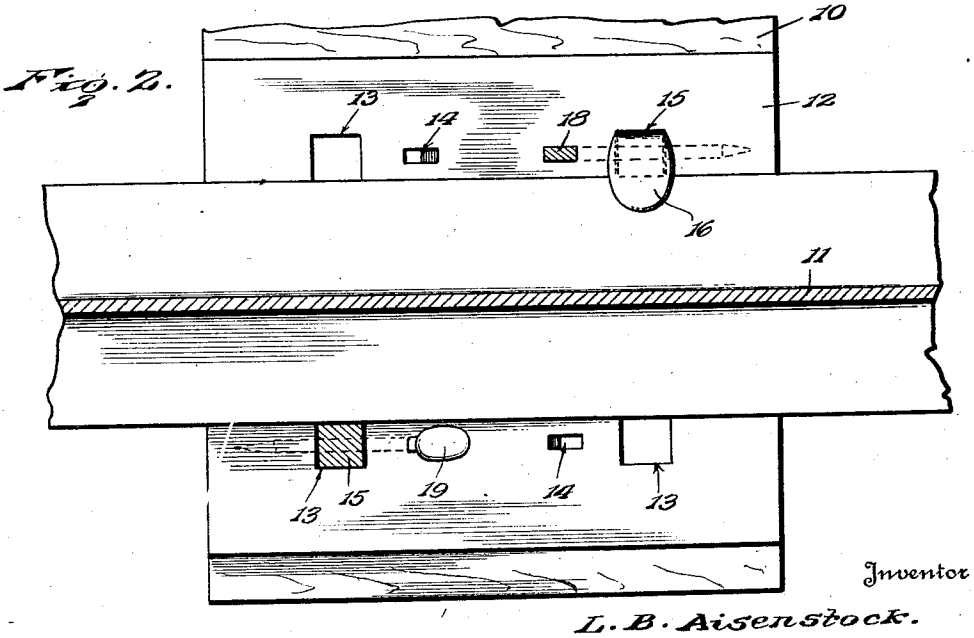


Fig. 2.



Inventor

L. B. Aisenstock.

By Lacey & Lacey, Attorneys

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UNITED STATES PATENT OFFICE.

LEON B. AISENSTOCK, OF EAST ORANGE, NEW JERSEY.

RAIL FASTENING.

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This invention relates to an improved fastening for railway rails and seeks, among other objects, to provide a fastening wherein the rails will be rigidly and securely fixed to the ties and wherein the spikes employed will be locked against retractive movement so that said spikes will function to bind the rails to the ties as long as the ties remain in service.

A further object of the invention is to provide a fastening embodying a separate locking pin for each spike and wherein, after the spikes have been driven into the ties, the locking pins may also be driven into the ties to coact with the spikes for locking said spikes against retraction.

And the invention seeks, as a still further object, to provide a fastening embodying a chair plate for the rails, and wherein said chair plate will be provided with means for guiding the locking pins to engage the spikes as said pins are driven into the ties.

Other objects of the invention not specifically mentioned in the foregoing, will appear during the course of the following description.

In the accompanying drawings:

Figure 1 is a sectional view showing my improved fastening in connection with a conventional railway rail and tie.

Figure 2 is a plan view of the fastening, parts being broken away and shown in section.

Referring now more particularly to the drawings, I have conventionally shown a wooden railway tie at 10 and a rail at 11. Overlying the tie beneath the rail is a metallic chair plate 12, and formed in said plate adjacent each longitudinal edge of the base flange of the rail are spaced openings 13. The chair plate is further provided adjacent said openings with inclined guide slots 14, the slots associated with each pair of openings being arranged in alinement between such pair of openings. In the present instance, I have shown the chair plate as provided with four of the openings 13 as well as with four of the slots 14. However, as will be understood, the number of said openings, as well as the number of the slots employed may be varied as found desirable.

Driven through diagonally disposed openings 13 at the inner and outer sides of the rail are spikes 15. These spikes are provided with heads 16 to engage over the base flange of the rail, and formed in the shanks of said spikes are inclined openings 17. In the present instance, I have shown the use of only two spikes but, as will be appreciated, a total of four spikes may, if desired, be employed, to occupy all of the openings 13 of the chair plate 12. The spikes are shaped to quite snugly fit said openings so that the walls of the openings will guide the spikes vertically. Extending through the adjacent slots 14 and through the openings 17 of the spikes are locking pins 18 which are pointed at their lower ends while at their upper ends said pins are provided with heads 19 for limiting the pins in their movement into the tie. After the spikes have been driven into the tie for tightly binding the rail 11 against the chair plate 12, the locking pins 18 are then driven into the tie to pass through the openings 17 of the spikes and it is now to be particularly observed that the slots 14 are so inclined with respect to the openings 13 in the chair plate that said slots will serve to guide the locking pins to pass through the openings 17 of the spikes as said pins are driven into the tie. As shown in Figure 2, the locking pins are flat and are shaped to snugly fit through the slots 14 so that the walls of said slots will coact with the pins for effectively guiding the pins. As will be appreciated, the pins 18 will securely lock the spikes against upward movement so that the spikes will, as long as the tie does not become too badly decayed, function to rigidly and tightly connect the rail with the tie. In any instance where four spikes are used in conjunction with the chair plate 12, four of the locking pins will, of course, also be employed for locking all of the spikes against retraction.

Having thus described the invention, what I claim is:

1. A rail fastening including in combination with a rail and tie, a chair plate between the rail and tie, means extending through the chair plate into the tie and engaged with the rail for connecting the rail with the tie, and means extending through the chair plate into the tie to engage the former means for locking the former means against retraction.

2. A rail fastening including in combination with a rail and tie, a chair plate between the rail and tie, a spike driven through the chair plate into the tie and engaged with the rail for connecting the rail with the

tie, said spike being formed with a transversely extending passage intermediate its ends, and a locking pin driven through the tie plate into the tie and passing through the passage of the spike for locking the spike against retraction.

3. A rail fastening including in combination with a rail and tie, a chair plate disposed between the rail and tie and provided with a guide slot, a spike extending through the chair plate and driven into the tie for connecting the rail with the tie, and a locking pin extending through said slot and driven into the tie to coact with the spike for locking the spike against retraction, the walls of the slot serving to guide the pin to engage the spike as the pin is driven into the tie.

4. A chair plate adapted to rest upon a tie beneath a rail and formed with an opening through which a spike may be passed and driven into a tie with its head engaged with the base of a rail resting upon the plate, said chair plate being also formed with a slot adjacent said opening extending downwardly in converging relation to the opening and through which a securing pin may be passed and driven into the tie with the walls of the opening guiding the pin downwardly through the tie into locking engagement with the spike.

5. In a rail fastening, a chair plate provided with an opening and formed adjacent said opening with a slot inclining downwardly toward said opening, a spike shaped to fit through said opening and adapted to be driven into a tie for connecting a rail with the tie, the spike being provided with an inclined opening therethrough, and a locking pin shaped to fit through said slot and adapted to be driven into the tie to extend through the inclined opening of the spike for locking the spike against retraction, the walls of said slot being adapted to guide the pin into the inclined opening of the spike as the pin is driven into the tie.

In testimony whereof I affix my signature.

LEON B. AISENSTOCK. [L. S.]