J. C. EVANS & P. G. HILL.

RAIL CHAIR AND COUPLING.

APPLICATION FILED JULY 9, 1909.

958,241. Patented May 17, 1910.

Fig. 1.

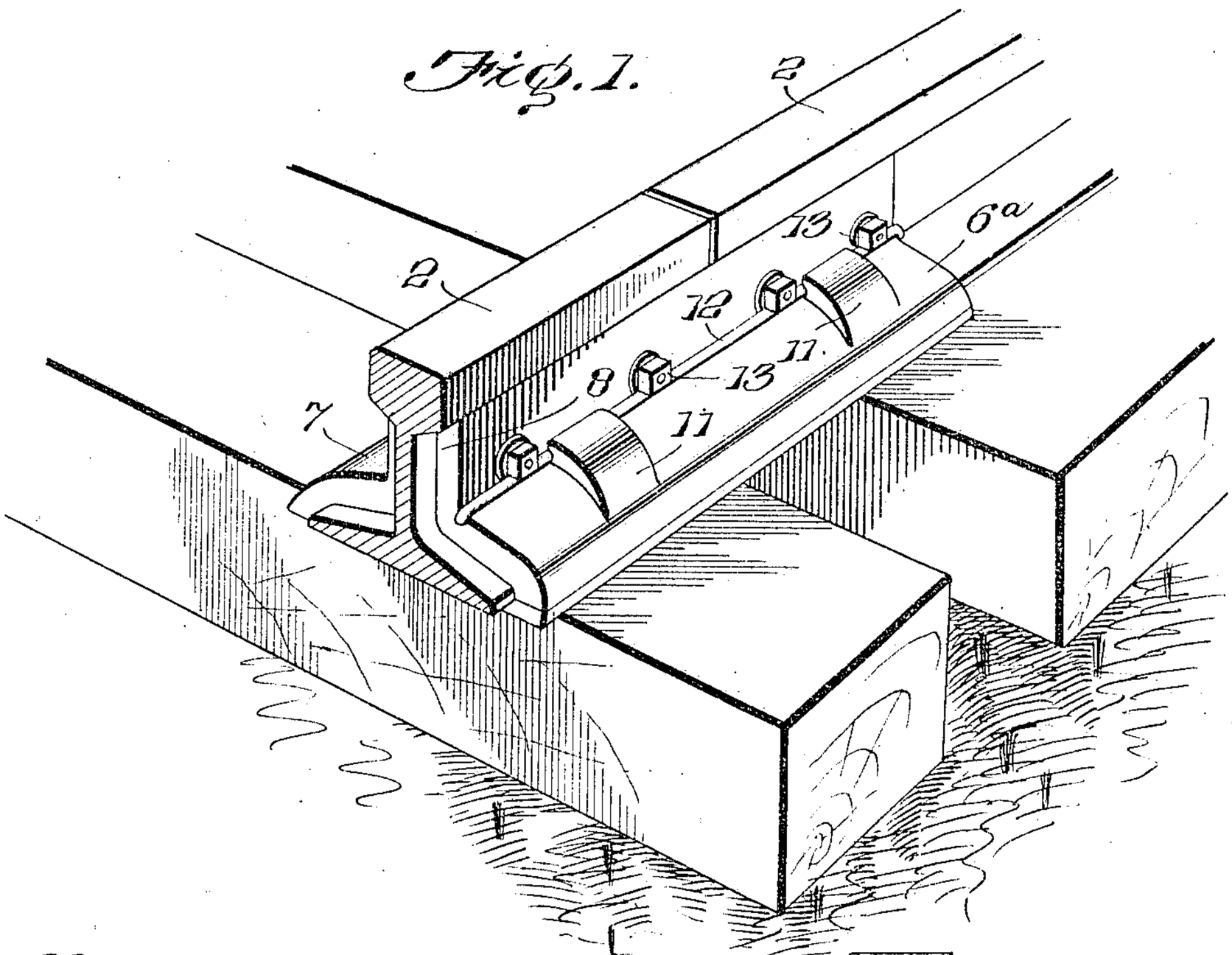


Fig. 2.

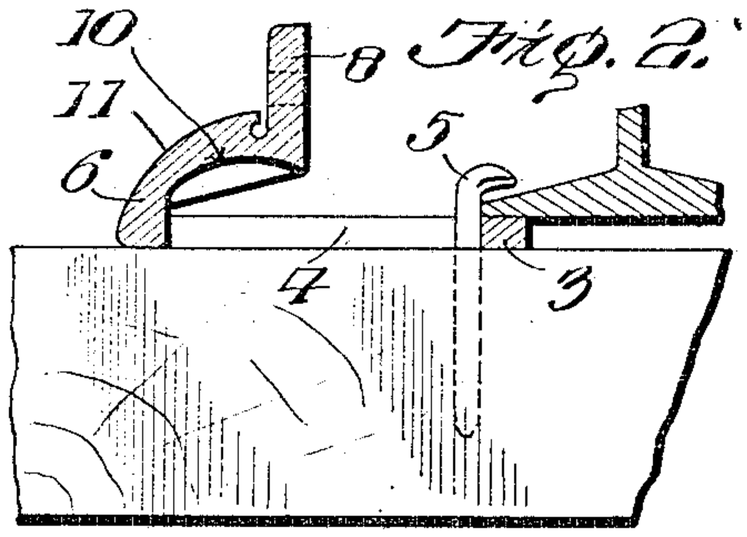


Fig. 3.

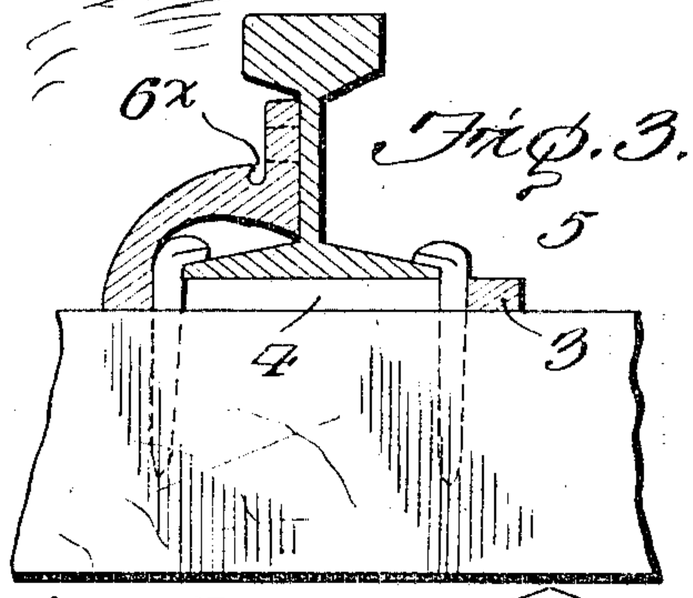


Fig. 4.

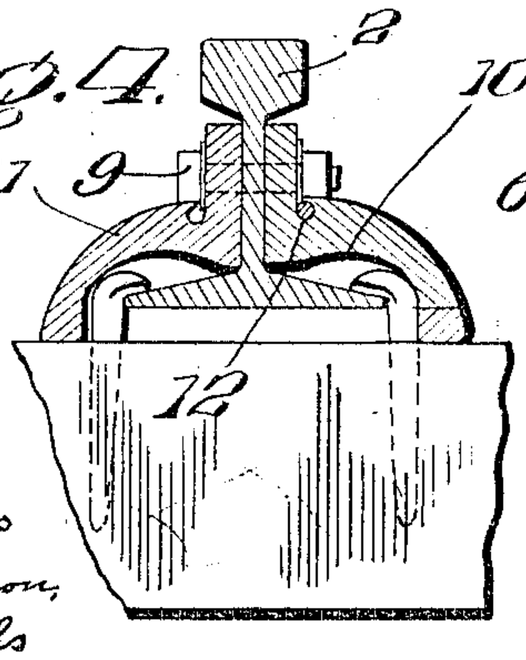
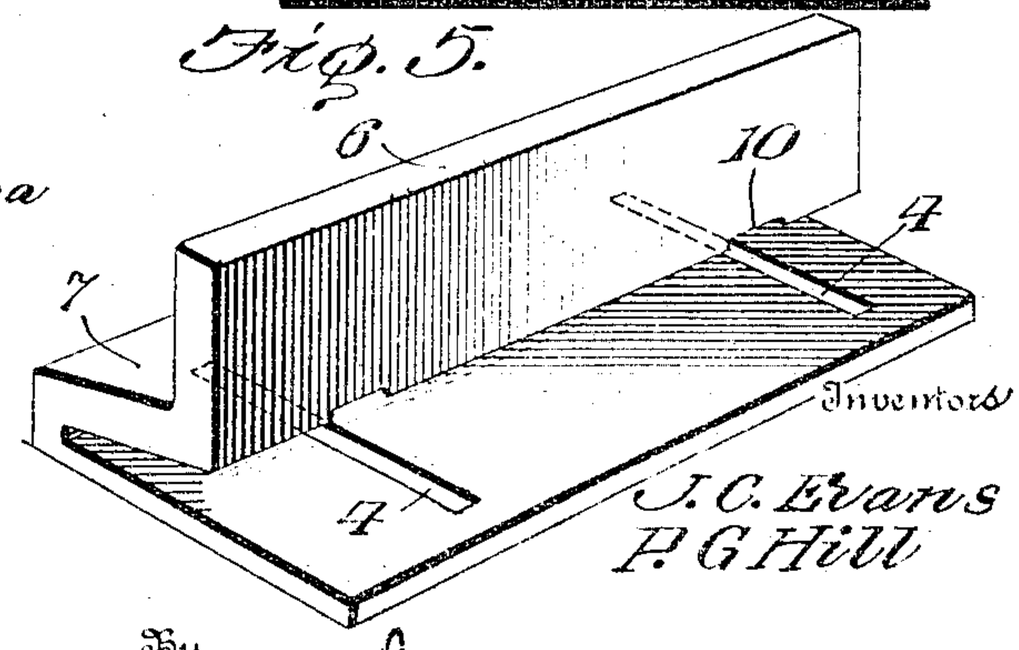


Fig. 5.



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UNITED STATES PATENT OFFICE.

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RAIL CHAIR AND COUPLING.

958,241. Specification of Letters Patent. Patented May 17, 1910.

Application filed July 9, 1909. Serial No. 506,725.

To all whom it may concern:

Be it known that we, JESSE C. EVANS and PALMER G. HILL, citizens of the United States, both residing at Lumberton, in the county of Robeson and State of North Carolina, have invented certain new and useful Improvements in Rail Chairs and Couplings, of which the following is a specification.

The present invention relates to track equipment for railways, and the invention has for its object a particularly efficient rail chair and coupling which is adapted to be spiked or similarly fastened to the railway tie and is arranged to receive the meeting ends of the rails and to rigidly couple the same together, and which embodies a novel arrangement of parts whereby it is rendered susceptible of being expeditiously applied to the rail or detached therefrom when desired.

With this and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that we shall hereinafter fully describe and then point out the novel features of in the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a sectional perspective view illustrating the application of the invention; Figs. 2 and 3 are detail transverse sections illustrating different positions of the chair in the application thereof to the rail; Fig. 4 is a similar view with the chair completely attached; and, Fig. 5 is a perspective view of the base of the chair and the side member integral therewith.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawing, the numeral 1 designates our improved rail chair which is adapted to receive the meeting ends of the rails 2, and which comprises a base plate 3 that rests upon the railway tie and is disposed longitudinally beneath the rails and is somewhat wider than the latter, so as to extend outwardly on both sides thereof. At longitudinally spaced points the base plate is formed with slots 4 that extend transversely thereof and project at their opposite ends beyond the longitudinal edges of the rails, the projecting end portions of the slots being designed for the reception of spikes 5 which engage the proximate base flanges of the rails and are driven in the railway tie to fix the rail chair in position thereon.

Upstanding from the longitudinal edge portions of the base plate, are opposed side members 6 and 6^a which are arranged on opposite sides of the rails and constitute fish plates therefor. One of these side members, designated 6, is integral with the base plate, while the other side member 6^a, is separable therefrom for a purpose to be presently disclosed. The side members conform with the contour of the rails and for this purpose comprise inwardly curved foot portions 7 for extending over the base flanges of the rails, and vertical portions 8 upstanding from said curved portions and abutting the webs of the rails. The vertical portions 8 are formed with registering apertures through which bolts 9 or like fastening devices are inserted, the fastening devices serving to hold the separable side member 6^a in place and passing through the interposed webs of the rails to connect the latter together.

By referring particularly to Fig. 4, it will be observed that the side members completely inclose the heads of the spikes 5, the curved portions 7 extending over the same and bearing thereagainst, whereby to hold the spikes against possible loosening movement. In the present instance the curved portions 7 are formed in their under faces with transverse grooves 10 for the accommodation of the spike heads, the side members being formed on their outer faces with transverse enlargements or ribs 11 that extend over the respective grooves in order to maintain a uniform thickness of material and thus eliminate any weak points. The ribs are spaced apart from the vertical portions 8 of the side members, as shown, to provide seats 11^a. 12 designates a locking rod which is designed to be carried by one of the side members and which is inserted longitudinally in the seats 11^a thereof and below the nuts 13 working on the extremities of the bolts 9. The nuts are turned so that one face bears firmly and evenly against the rod and are thus securely locked in position against accidental loosening movement. The locking rod is retained against longi-

tudinal displacement by bending its terminal portions against the ends of the side members, or in any other approved manner.

In the application of a rail chair constructed in accordance with our invention, one longitudinal edge of the base plate 3 is inserted beneath the bases of the rails with the rigid side member 6 in spaced relation thereto (see Fig. 2). The spikes 5 are then driven through the slots 4 and into the railway tie and are engaged with the base flanges of the rails adjacent to the side member 6. The base plate is now driven transversely beneath the rails until the side member 6 abuts the same, the slots 4 permitting such movement and the corresponding grooves 10 accommodating the heads of the spikes and being carried transversely with respect thereto, so that the heads are seated at the outer terminals of the grooves as illustrated in Fig. 3. Spikes 5 are driven through the projecting end portions of the slots on the opposite side of the rail, whereupon the separable side member 6^a is applied and the bolts 9 passed through the side members and the interposed webs of the rail. The nuts 13 of the bolts are turned with one face opposed to the curved portion 7, and are locked in adjusted position by the insertion of the rod 12, which completes the attaching operation.

From the foregoing description in connection with the accompanying drawing, it will be apparent that we have provided an improved rail chair and coupling, which embodies to a marked degree the characteristics of simplicity, durability and strength; which after application to the rail requires no subsequent attention; and which may be easily and cheaply manufactured so as to admit of its general adoption.

Having thus described the invention what is claimed as new is:

1. A rail chair comprising a base, spikes driven through the base in transversely spaced relation, transversely spaced opposed side members upstanding from the base beyond the spikes and extending over and bearing against the heads thereof, the side members conforming to the contour of a rail, one of the side members being integral with the base and the other side member being separable therefrom, and fastening devices connecting the side members.

2. A rail chair comprising a base formed with longitudinally spaced transversely disposed slots, spikes driven through the base and positioned at the opposite ends of the slots and adapted to engage the base flanges of the rail, transversely spaced opposed side members upstanding from the base beyond the terminals of the slots and conforming to the contour of a rail, the side members extending over and bearing against the heads of the spikes, one of the side members being integral with the base and the other side member being separable therefrom, and means for connecting the side members.

3. A rail chair comprising a base formed with longitudinally spaced transversely disposed slots extending therethrough, transversely spaced opposed side members upstanding from the base beyond the terminals of the slots and conforming with the contour of a rail, and fastening means connecting the side members, the side members being formed in their under surfaces with transverse grooves arranged in alinement with the slots.

4. A rail chair comprising a base formed with longitudinally spaced transversely disposed slots extending therethrough, spikes driven through the base and positioned at the opposite ends of the slots, transversely spaced opposed side members upstanding from the base beyond the terminals of the slots and conforming with the contour of a rail, one of the side members being formed integral with the base and the other side member being separable therefrom, and fastening means connecting the side members, the side members being formed in their under surfaces with transverse grooves arranged in alinement with the respective slots and adapted for the reception of the heads of the spikes.

5. A rail chair comprising a base formed with longitudinally spaced transversely disposed slots extending therethrough, transversely spaced opposed side members upstanding from the base beyond the terminals of the slots and conforming with the contour of a rail, one of the side members being rigid with the base and the other side member being separable therefrom, fastening devices connecting the side members, the side members being formed in their under faces with transverse grooves arranged in alinement with the respective slots, and ribs outstanding from the outer surfaces of the side members and extending in alinement with the respective grooves.

6. A rail chair comprising a base, transversely spaced opposed side members upstanding from the base and conforming with the contour of a rail, one of the side members being rigid with the base and the other side member being separable therefrom, bolts passed through and extending between the side members, nuts working on the bolts and bearing against one of the side members, a removable locking rod lying longitudinally on the periphery of one of the side members and bearing against all of the nuts to hold the same against turning movement, and means for retaining the locking rod in place.

7. A rail chair comprising a base, transversely spaced opposed side members upstanding from the base and conforming with the contour of a rail and each comprising an inwardly curved foot portion and an upper

portion extended vertically from said foot portion, bolts passed through and extending between the upper portions of the side members, nuts working on the bolts and bearing against one of the side members, the last named side member being formed on the outer surface of its foot portion with an integral outstanding abutment spaced apart from the upper portion, and a removable locking rod lying longitudinally on the foot portion of said side member and inserted between the upper portion thereof and the abutment and below the nuts, the nuts bearing against the rod whereby to be held against any turning movement.

8. A rail chair comprising a base, and transversely spaced opposed side members upstanding from the base and conforming to and arranged to lie against opposite sides of a rail, one of the side members being rigid with the base and the other side member being separable therefrom, the base being formed with a spike slot extending transversely thereof between the side members, the rigid side member being formed in its under surface with a spike head receiving groove in alinement with the spike slot.

9. A rail chair including a base designed to have a rail rest thereon and formed with a spike slot extending transversely thereof, and a side member rigid with the base beyond one terminal of the slot, the side member overhanging the base and extending over the base flange of the rail on one side thereof and being formed in its under surface in alinement with the spike slot, with a transversely disposed spike head receiving groove.

10. A rail chair including a base designed to have a rail rest thereon, and a side member rigid with the base and extending over the base flange of the rail and formed in its under surface with a transversely disposed spike head receiving groove and in its outer surface with an outstanding rib arranged in alinement with the groove, the base being formed with a spike slot extending transversely thereof in alinement with the groove.

11. A rail chair comprising a base, spikes driven through the base in transversely spaced relation and engaging the opposite longitudinal edges of the base of the rail, and transversely spaced opposed side members upstanding from the base beyond the spikes and extending over and bearing against the heads thereof, the side members conforming to the contour of and lying against the opposite sides of the rail.

12. A rail chair comprising a base, fastening devices driven through the base in transversely spaced relation and engaging the opposite longitudinal edges of the base of the rail, and transversely spaced opposed side members upstanding from the base beyond the spikes and engaging over the base flanges of the rail, the side members being formed in their under surfaces with grooves receiving the heads of the fastening devices.

13. A rail chair including a base plate formed with a transverse slot, a fastening device driven through the slot and engaging the basal flange on one side of the rail, a side member rigid with the base plate on said side of the rail, the base plate being movable transversely into operative position beneath the base of the rail with the side member lying against the said side of the rail, another fastening device engaging the basal flange on the opposite side of the rail and driven through the base plate to hold the same against moving transversely into an inoperative position, and a removable side member separate from the base plate and lying against the last named side of the rail.

14. A rail chair including a base plate formed with a transverse slot, a fastening device driven through the slot and engaging the basal flange on one side of the rail, a side member rigid with the base plate on said side of the rail, the base plate being movable transversely into an operative position beneath the base of the rail and the side member being movable with the base plate to lie against the said side of the rail and to extend over the head of the fastening device, a second fastening device engaging the basal flange on the opposite side of the rail and driven through the base plate to retain the same in operative position against lateral displacement, and a removable side member separate from the base plate and lying against the last named side of the rail and extending over the head of the second fastening device.

15. A rail chair including a base plate formed with a transverse slot of greater length than the width of the base of the rail, a fastening device driven through the slot and engaging the basal flange on one side of the rail, a side member rigid with the base plate on said side of the rail, the base plate being movable transversely into an operative position beneath the base of the rail with the side member lying against the said side of the rail and with the slot projecting laterally beyond the basal flange on the opposite side of the rail, a second fastening device engaging the last named basal flange of the rail and driven through the slot to hold the base plate in an operative position against lateral displacement, and a removable side member separate from the base plate and lying against the opposite side of the rail from the rigid side member.

16. A rail chair including a base plate formed with a transverse slot of greater length than the width of the base of the rail, the base plate being movable transversely into an operative position beneath

the base of the rail with the end portions of the slot projecting beyond the basal flanges on opposite sides of the rail, fastening devices engaging the respective basal flanges and driven through the adjacent end portions of the slot to hold the base plate in an operative position against lateral displacement, and side members lying against opposite sides of the rail and extending over and bearing upon the heads of the fastening devices.

17. A rail chair including a base plate formed with a transverse slot, a fastening device driven through the slot and engaging the basal flange on one side of the rail, a side member rigid with the base plate on said side of the rail, the base plate being movable transversely into operative position beneath the base of the rail and the side member being movable with the base plate to lie against the said side of the rail, and another fastening device engaging the basal flange on the opposite side of the rail and driven through the base plate to retain the same in an operative position against lateral displacement.

18. A rail chair including a base plate formed with a transverse slot of greater length than the width of the base of the rail, a fastening device driven through the slot and engaging the basal flange on one side of the rail, a side member rigid with the base plate on said side of the rail, the base plate being movable transversely into an operative position beneath the base of the rail with the side member lying against the said side of the rail and one end portion of the slot projecting laterally beyond the basal flange on the opposite side of the rail, and another fastening device engaging the last named basal flange of the rail and driven through the adjacent end portion of the slot to retain the chair in an operative position against lateral displacement.

19. A rail chair including a base plate formed with a transverse slot, a fastening device driven through the slot and engaging the basal flange on one side of the rail, a side member upstanding from the base plate on said side of the rail and conforming to the contour thereof, the base plate being movable transversely into an operative position beneath the base of the rail and the side member being movable with the base plate to lie against the said side of the rail, the side member being formed in its under surface with a transverse groove receiving the head of the fastening device upon such transverse movement of the chair, and means for holding the chair in an operative position against lateral displacement.

20. A device of the character described including a base plate formed with a transverse slot, a fastening device driven through the slot and engaging the basal flange on one side of the rail, the base plate being movable transversely into operative position beneath the base of the rail, a member upstanding from the base plate on the said side of the rail and movable transversely therewith to extend over and engage the head of the fastening device, and a second fastening device engaging the basal flange on the opposite side of the rail and driven through the base plate to retain the same in an operative position against lateral displacement.

21. A rail chair comprising a base, opposed side members upstanding from the base and lying against the opposite sides of the rail, each side member consisting of an inwardly curved foot portion and an upper portion extending substantially vertically from the inner edge of the said foot portion, bolts passed through the upper portions of the side members, nuts working on the bolts and all arranged in abutting relation to one of the side members, the last named side member being formed with an integral abutment upstanding from its foot portion in spaced relation to its upper portion, and a removable locking rod lying longitudinally on the foot portion of the said side member and inserted between the upper portions thereof and the abutment, the rod being positioned below the nuts and bearing thereagainst to hold the same against turning movement, the abutment being relatively wide and extending laterally away from the adjacent upper portion of the side member and merging gradually at its end remote therefrom, with the corresponding foot portion.

In testimony whereof we affix our signatures in presence of two witnesses.

JESSE C. EVANS. [L. S.]
PALMER G. HILL. [L. S.]

Witnesses:
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J. H. WISHART.