

No. 684,262.

Patented Oct. 8, 1901.

W. F. JOHNSTON.
RAIL CHAIR.

(Application filed Dec. 22, 1900.)

(No Model.)

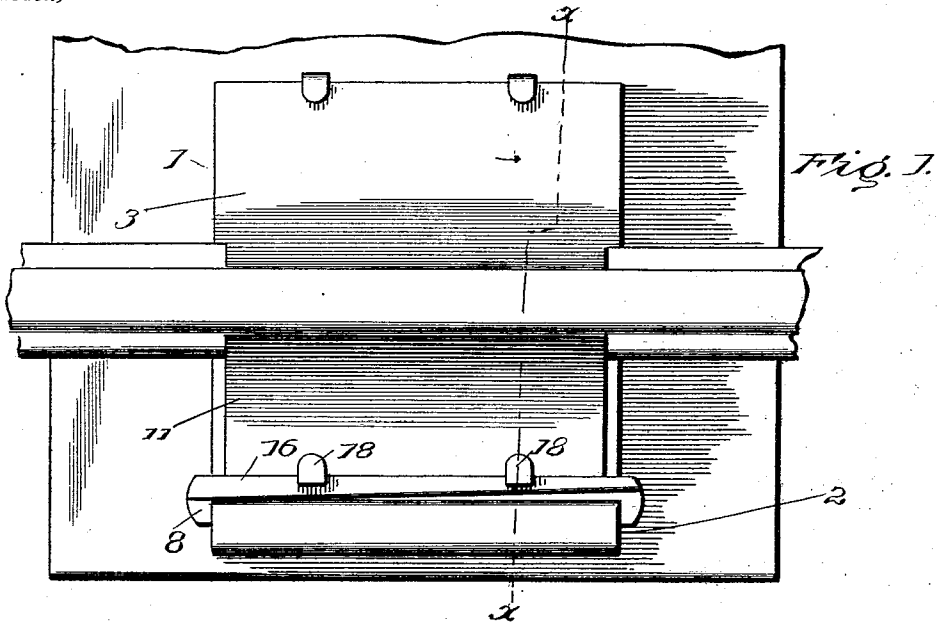


Fig. 2.

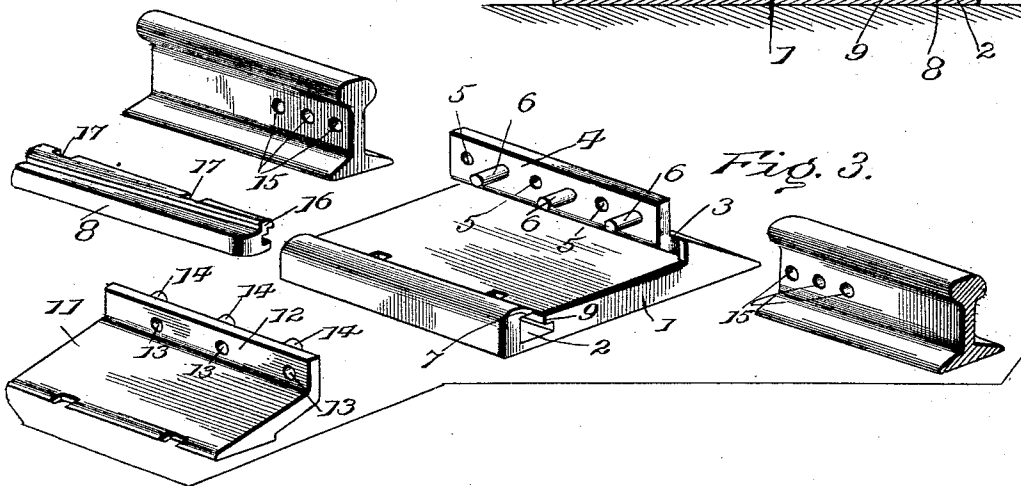
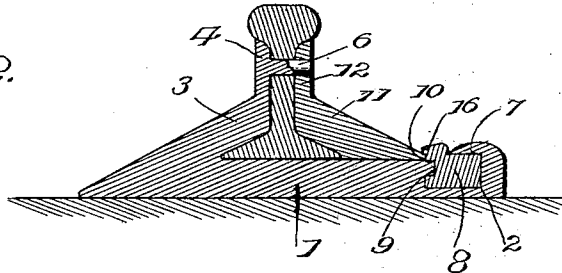


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM F. JOHNSTON, OF DUBOIS, PENNSYLVANIA.

RAIL-CHAIR.

SPECIFICATION forming part of Letters Patent No. 684,262, dated October 8, 1901.

Application filed December 22, 1900. Serial No. 40,800; (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. JOHNSTON, a citizen of the United States, residing at Dubois, in the county of Clearfield and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Chairs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention aims to provide a firm support and secure joint between the abutting ends of adjacent railroad-rails and to obviate the use of the usual fish-plates and bolts.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are necessarily susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of the chair and rail-joint. Fig. 2 is a transverse section about on the line X X of Fig. 1. Fig. 3 is a perspective view showing the parts separated and disposed in a group. Fig. 4 is a perspective view of the key as shown from the reverse side illustrated in Fig. 3.

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

The chair comprises a base 1, having a longitudinal groove or seat 2 near one edge and an upwardly-extending portion 3 at the opposite edge to overlap the foot of the rail, bear against a side thereof, and come beneath the head, so as to brace the joint laterally and support and strengthen the head and prevent any possible vertical play of the abutting terminals of adjacent rails after the parts have been properly assembled. The vertical portion 4 is provided with transverse openings 5 and laterally-extending pins 6, alternately arranged for a purpose presently to be described. The outermost wall of the

groove or seat 2 is higher than the inner wall and is formed with an inwardly-extending lip 7 to overlap the outer top portion of the key 8 and retain it in the seat against vertical displacement. The inner wall of the groove or seat 2 is undercut to provide a lip 9 to enter a groove 10 in the inner side of the key 8 to supplement the action of the lip 7 in holding the key against possible vertical movement. The upwardly-extending portion 3 is preferably on an integral part of the base 1, and the latter has the groove or seat 2 formed therein in any convenient way.

A keeper 11, similar in construction to the upwardly-extending part 3 of the base 1, is provided and adapted to be placed upon the edge portion of the base adjacent the groove or seat 2 and serves, in conjunction with the part 3 and key 8, to hold the rail in place and to brace it vertically and laterally. The vertical portion 12 of the keeper is provided with openings 13 and laterally-extending pins 14, alternately arranged for a like purpose to the openings 5 and pins 6 of the part 3. The pins 14 are adapted to enter the openings 5, and the openings 13 receive the pins 6. The web portion of the rails adjacent their ends is provided with openings 15 to receive the pins 6 and 14, whereby longitudinal movement of the rails is prevented. The openings 15 are of such formation as to allow for contraction and expansion due to changes of temperature.

The key 8 tapers slightly in width and is formed along its inner side with a groove 10 to receive the lip or projecting portion 9 of the inner wall of the groove or seat 2. A flange 16 is provided along the top side of the key and overlaps the edge portion of the keeper 11 adjacent the groove or seat 2 and serves to hold the said keeper upon the base against vertical displacement. Vertical notches 17 are formed in the grooved side of the key to correspond in position with openings in the base 1 and notches in the lower outer edge of the keeper to receive the spikes 18, by means of which the chair is secured to the tie. These spikes 18 also serve to prevent longitudinal movement of the key when forced home in the groove or seat 2. The opposite edge of the base is likewise notched to

receive the securing-spikes, whereby the chair is prevented from vertical or longitudinal movement when secured in place.

It will be observed that the joint between
 5 the abutting ends of adjacent rails is supported against vertical pressure and lateral stress by means of the base and parts 3 and 11, the joint coming about midway between the ends of the chair. Casual displacement
 10 of the end portions of the rails is obviated by the pins 6 and 14, which pass through the openings 15 in the end portions of the webs of the rails and engage with the vertical extensions of the parts 3 and 11. Bolts are not
 15 necessary. Hence the objectionable feature of the nuts becoming loosened is obviated and the construction materially cheapened and rendered more effective.

Having thus described the invention, what
 20 is claimed as new is—

A rail-chair comprising a base having a rail-engaging portion at one edge, and a lon-

gitudinal groove or seat in its opposite edge-portion, the inner wall of said groove being undercut to provide a lip and the outer wall
 25 having a corresponding lip to overhang the groove, a keeper placed upon the base and adapted to cooperate with the aforementioned rail-engaging portion, and a key inserted
 30 in the longitudinal groove and held therein against longitudinal displacement and having its inner side grooved to receive the projecting portion provided at the inner wall of the key-seat and having a flange to overlap the
 35 outer edge portion of the aforesaid keeper, and the flange at the outer wall of the key-seat overhanging the key, substantially as set forth.

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

WILLIAM F. JOHNSTON.

Witnesses:

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