

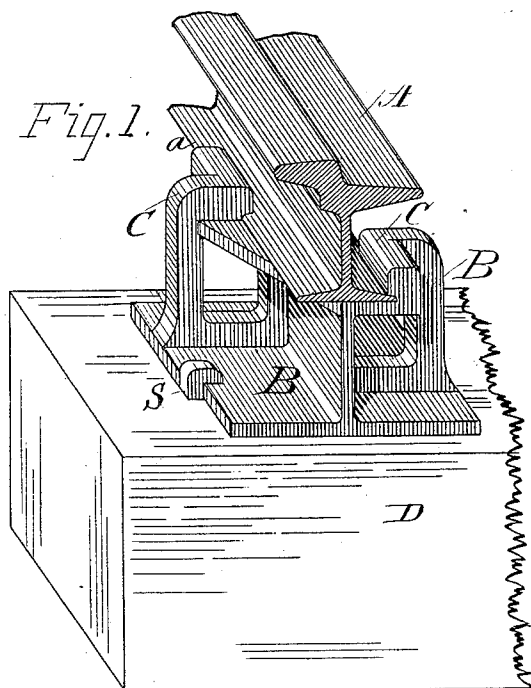
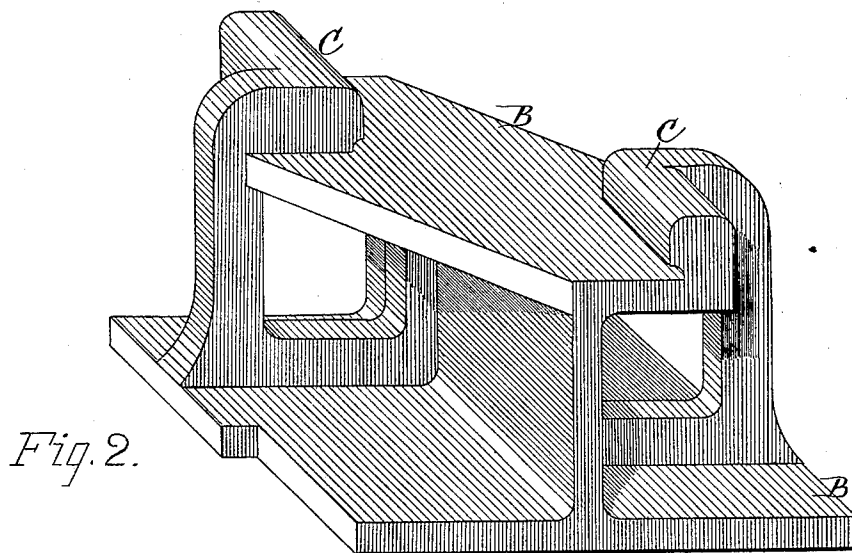
(No Model.)

T. L. JOHNSON.

RAILROAD RAIL CHAIR FOR CLAMPING THE RAILS.

No. 318,625.

Patented May 26, 1885.



Witnesses.

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UNITED STATES PATENT OFFICE.

TOM L. JOHNSON, OF CLEVELAND, OHIO.

RAILROAD-RAIL CHAIR FOR CLAMPING THE RAILS.

SPECIFICATION forming part of Letters Patent No. 318,625, dated May 26, 1885.

Application filed June 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, TOM L. JOHNSON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Railroad-Rail Chair for Clamping or Locking the Rails Thereto and Securing the Same to the Cross-Ties of the Track, which improvement or invention is fully set forth and illustrated in the following specification and accompanying

drawings. The object of this invention is to provide a rail-chair for railroad-rails, which shall be readily fitted to the bottom flanges of the rails at any points in their lengths, and which when so fitted shall clamp said flanges and firmly hold the rails in track, the chairs being spiked in the ordinary manner to the cross-ties of the track. Said chairs are principally designed for street-railroad tracks and serve the purpose of permitting the sinking of the cross-ties to any desired depth below the surface of the street.

The invention consists of a cast-iron or other cast-metal chair, as hereinafter fully described, and set forth in the claim.

In the accompanying drawings, Figure 1 is an end view in perspective of a girder-rail mounted in a cast-iron chair having lugs diagonally placed upon its seat. Fig. 2 is an enlarged view of the same chair, also in perspective, detached from the rail.

In said figures the several parts are respectively indicated by letters, as follows: A is the rail; *a a*, its lower flanges; B, the rail-chair provided with cruciform webs W; C C, its lugs clamping the flanges *a a*; D, a section of a cross-tie to which the chair B is spiked by the spikes S.

The advantages of this form of chair and the object of the diagonal disposition of its lugs will now be explained.

It is necessary of course that a certain tightness of fit shall exist between the lugs C C of the chair and the flanges *a a* of the rail, in other words, that the flanges shall be "body-bound" within the lugs. Now, as the flanges of rolled rails are practically never of an exactly uniform size at every point in their length, the contour of the flanges being frequently indented in the process of cold-straightening, rendering said surfaces uneven, if the chairs

are so constructed as to require to be slipped on the flanges at the end of the rail and slid along to their respective points of support, too loose a fit must be given to the lugs of the chairs in order to permit of the chairs being slid along the rail, otherwise in practice the uneven surface of the rail-flanges will at some undesirable point jam and stick in the lugs of the chairs; but by the invention herein described the lugs of the chairs being put on the diagonally-opposite sides of the chairs, or one lug on one corner and the other lug on the diagonally-opposite corner, a perfect locking-chair is made, for it is obvious that the distance on the diagonal from corner lug to corner lug, as shown in the several figures, is greater than the distance across the chair from line of lug to line of lug measured at right angles to the longitudinal median line of the chair; hence by skewing the chair so as to enter the rail-flanges between the lugs diagonally and then turning the chair so that its longitudinal median line shall be parallel with that of the rail, the flanges of the rail become locked under the lugs of the chair. The rail is thus completely held incapable of motion in any direction (save that due to expansion and contraction) as soon as the lugs of any two chairs are clamped over the rail-flanges and the chairs spiked to the cross-ties. An inspection of Fig. 1 of the drawings will make this explanation and description very manifest.

It will be observed that the chairs are shown with a portion of the metal cut away at the diagonally-opposite corners where no lugs are placed. This construction dispenses with surplus metal, and of course lessens the weight and cheapens the cost of the chairs.

It is not absolutely necessary that the chairs' longitudinal lines should be perfectly parallel with the lines of the rails, (though of course more consistent with good appearance,) for should the space under the lugs be a little full, or larger than the thickness of the rail-flanges, a little skewing of the chairs will tightly lock the flanges.

It is obvious that in addition to the advantages above enumerated the use of these chairs greatly facilitates the rapid laying of railroad-tracks where such chairs are employed. In all track construction it is the practice to

roughly place and bolt together the various rails several lengths ahead of the men who "surface" and "line up" the track, and it is found advantageous to make such a distribution of labor between the first location of the rails and the final "truing up" and finish in laying the same. If the chairs had to be placed at stated intervals on the rail by slipping them on from the end, this would have to be done previous to the first location of the rails, and not only impede this part of the work, but render more difficult the subsequent truing up of the track. It is after the rails have been first placed upon the cross-ties and after the latter have been properly located that the chairs should be clamped to the rail and secured to the cross-ties. The location of the lugs upon the chairs, as hereinbefore described, enables this proper and timely disposition and setting of the chairs to be made; and, furthermore, in case a chair should at any time become broken, such broken chair can obviously be promptly replaced without interfering with the other chairs on the same length of rail, for if the chairs had to be slipped on from the end of the rail, and the broken chair were in the center of the rail,

the whole rail, with all its chairs, would necessarily have to be taken up in order to replace such broken chair, which inconvenience and expense are entirely obviated by this invention.

In addition to the advantage of permitting the sinking of the cross-ties at any required depth below the street-surface, by regulating the height of the angle-webs with the disposition of the metal in the chair and the relative arrangements of said webs permit of the casting or molding of the chair without cores and with but a single parting-line.

Having thus fully described my said improved rail-chair as of my invention, I claim—

As a new article of manufacture, a railroad-rail chair made of cast metal, consisting of a horizontal base provided with vertical angle-webs and diagonally-placed lugs above said webs, for clamping the base-flanges of the rails and securing the rails in track, substantially as set forth.

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Witnesses:

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