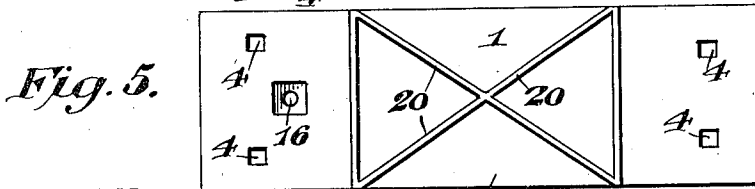
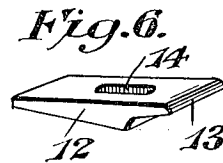
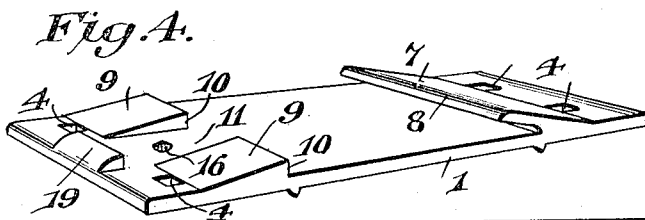
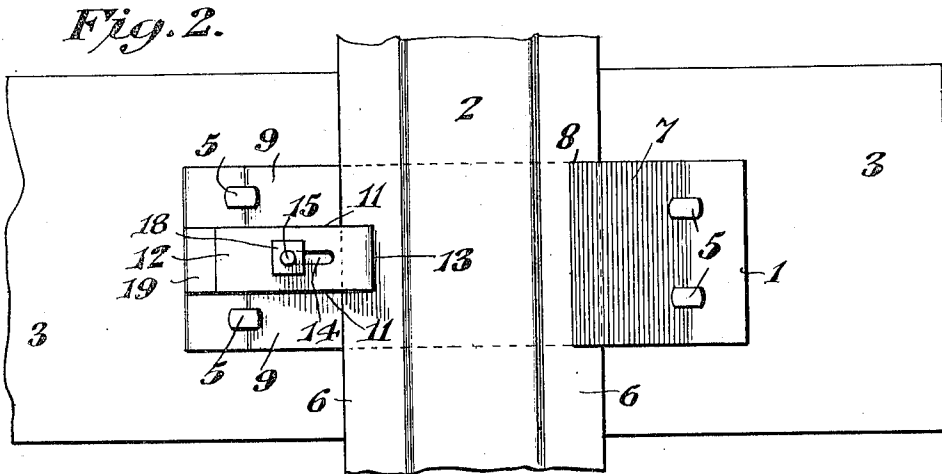
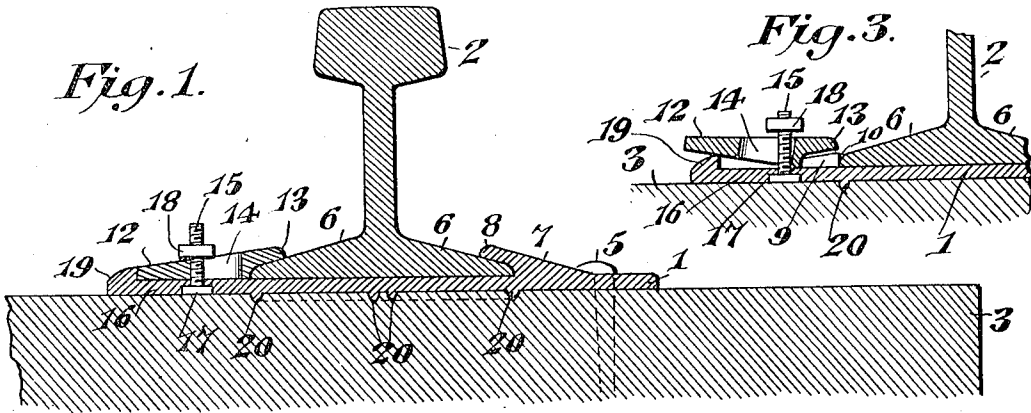


1,292,811.

Patented Jan. 28, 1919.



WITNESSES

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UNITED STATES PATENT OFFICE.

ANDREW KUGLER, OF WAGONER, OKLAHOMA.

RAIL-FASTENER.

1,292,811.

Specification of Letters Patent.

Patented Jan. 28, 1919.

Application filed April 5, 1918. Serial No. 226,922.

To all whom it may concern:

Be it known that I, ANDREW KUGLER, a citizen of the United States, residing at Wagoner, in the county of Wagoner and State of Oklahoma, have invented a new and useful Rail-Fastener, of which the following is a specification.

This invention relates to fastening means for securing rails in position upon railroad ties.

The object is to provide simple means for accomplishing this purpose, wherein the use of the ordinary spikes for directly fastening the rail are entirely dispensed with, thus rendering it possible to remove and replace the rail without the necessity of drawing the spikes.

Another object is to provide a rail chair, adapted to be secured to the tie in proper position for supporting the rail, and having means for engaging the flange of the rail, said means being capable of being loosened and shifted to one side for freeing one side of the rail, and permitting the withdrawal of the same, the said movable means being held to the chair, thus preventing the loss of the same.

A full and complete understanding of the invention may be obtained from a consideration of the following detailed description, taken in connection with the accompanying drawing forming a part of this specification; it being understood that while the drawing shows a practical form of the invention, the latter is not confined to strict conformity therewith, but may be changed or modified, so long as such changes or modifications mark no material departure from the salient features of the invention, as specifically pointed out in the appended claims.

In the drawing, in which like reference characters designate similar parts throughout the several figures—

Figure 1 is a sectional view, taken transversely of a rail and showing the same supported on a tie, by the improved fastening means;

Fig. 2 is a plan view thereof;

Fig. 3 is a fragmentary view, similar to Fig. 1, showing the movable rail-flange engaging member in position for releasing the flange to permit of the removal of the rail;

Fig. 4 is a perspective view of the rail-chair;

Fig. 5 is a bottom plan view thereof;

Fig. 6 is a detail perspective view of the movable flange-engaging member.

Great pecuniary loss is encountered in the up-keep of railroads, by reason of the frequent replacement of ties becoming necessary through the rotting of the same at the point where engaged by the rail or where the ordinary spikes are driven in to secure the rail to the tie. When it becomes necessary to move or replace a rail, which frequently happens, it is necessary to draw the spikes upon each side of the rail-flange, thus leaving the spike holes which, if the rail is to be replaced in the same position, must be plugged with wooden fillers. The spikes when driven into the plugs, frequently fail to hold satisfactorily, thus permitting the spreading of the rails and often resulting in catastrophies. In addition to this, water soon enters around the spike and rots the plug and the adjacent fiber of the tie, rendering the latter unfit for service.

The device of the present invention is designed to overcome these defects, and to provide means for supporting the rail upon a tie in a manner to effectually prevent any transverse movement or longitudinal creeping of the same, and to permit, when desired, the ready releasing of the same, for the purpose of changing or replacing it, without the necessity of drawing a single spike.

To accomplish this, the invention comprises a rail-chair 1, composed of suitable metal, cast in the form of a plate of a length substantially equal to twice the width of the flange of the rail 2, and of a width substantially equal to one-half the width of the tie 3. This chair is arranged longitudinally of the tie, as illustrated in Fig. 2, and located centrally thereof, in proximity to the end of the tie, to position the rail in the customary location.

The rail-chair 1 is provided near its ends with spaced, oppositely-disposed apertures 4, for the reception of spikes 5, which securely hold the rail-chair in position upon the tie, the said spikes having no connection with the flanges of the rail, as in the ordinary method of fastening rails to ties. The base of the rail, comprising the usual flanges 6—6, is arranged centrally of the chair 1, and one of said flanges, preferably the outside one, is adapted to engage with a keeper 7 cast integrally with the said chair, adja-

cent to one end thereof, said keeper being in the form of a transversely disposed, enlarged or thickened portion provided with an inwardly directed lip 8, spaced from the base of the rail-chair 1, to provide a socket for the reception of the adjacent, outside flange 6 of the rail 2, with the lip 8 in overhanging relation to said flange.

At the opposite or inner end, the rail-chair is provided with a pair of spaced lugs 9—9, in opposed relation to the keeper 7, and having vertical inner walls 10—10 adapted to bear against the edge of the inner flange 6 of the rail and to prevent any lateral movement of the same in that direction, and at the same time, permitting the said flange to be raised from engagement therewith, in a swinging movement, to free the opposite or outer flange 6 from its position beneath the overhanging lip 8, when removing the rail from its seat upon the chair 1.

The upper faces of the lugs 9—9 and the keeper 7 are preferably outwardly inclined for the purpose of draining water therefrom, and the space 11, defined between the said lugs 9—9, is adapted to receive a longitudinally slidable, locking member 12, formed with a lip 13, corresponding to the lip 8 of the keeper 7, and adapted to engage over the opposite or inner flange 6 of the rail, in like manner, when the said locking member is secured in active position by means about to be described.

The locking member is provided with a central, longitudinally disposed slot 14 for the purpose of receiving the upper, threaded end of a bolt 15, which traverses a suitable perforation 16 formed in the rail chair 1, midway between the lugs 9—9, and having its rectangular head 17 seated in a corresponding socket formed in the underside of the chair 1, for the purpose of preventing the turning of said bolt, when the binding nut 18 is screwed onto the upper, threaded end of the bolt to rigidly hold the lip 13 down upon the inner flange of the rail.

The locking member 12, which has its upper face inclined to correspond with the upper faces of the lugs 9—9, is adapted to bear, at its outer end, against a centrally located lug 19, formed integrally with the rail chair and at the end thereof, and of a width substantially equal to the width of the locking member. The abutting faces of the locking member and the lug 19 are preferably vertical, so that, when the nut 18 is sufficiently loosened on the bolt 15, there is nothing to prevent the upward movement of the locking member 12 upon the said bolt, when by reason of the slot 14, the outer end of said member may be moved into overriding relation to the terminal lug 19, and the lip 13, at the opposite end of the locking member is withdrawn from its en-

gagement with the flange of the rail, as clearly illustrated in Fig. 3 of the drawing.

It will be readily understood that when the parts are in the position just described and shown in said figure, that the rail may then be tilted to elevate the inner flange 6 thereof from engagement against the spaced lugs 9—9, when the entire rail may be lifted, with a slight inward movement thereof, to free the outer flange 6 from its engagement beneath the lip 8 of the keeper 7 and removed from its seat upon the rail-chair 1.

In addition to the spikes 5, the under face of the rail-chair 1 is preferably provided with a plurality of ribs 20 having sharpened edges for the purpose of penetrating the upper face of the tie 3, when the spikes are driven in, and assisting the latter in preventing any movement of the rail-chair upon said tie.

From the foregoing, it will be seen that a simple, cheap and durable device has been provided for fastening rails to ties, having means for effectually preventing any movement of the rail, either inwardly or outwardly, by reason of the fact that the flanges of the rail bear, respectively, against the keeper 7 and the inner faces of the spaced lugs 9—9, and that the overhanging lips 8 and 13, respectively, prevent any upward movement of either flange of the rail, after the rail is once properly placed in position and the locking member clamped down by the nut 18, with the lip 13 overhanging the flange 6 and the outer end of said member abutting against the lug 19, as clearly shown in Fig. 1 of the drawing.

The device dispenses with the necessity of drawing any of the spikes when it is desired to remove the rail, and the operation of removing or replacing the latter may be accomplished by the simple manipulation of a single nut.

What is claimed is—

1. A rail fastener comprising a rail-chair, means for securing the chair to a tie, a keeper formed integrally with and arranged near one end of the chair and having an overhanging lip to receive and to bear on one flange of the rail, spaced lugs formed integrally with and near the other end of the chair and adapted to bear against the other flange of the rail, a locking member mounted between the said lugs and provided with a longitudinal slot, a bolt mounted in the chair and traversing said slot to permit of sliding movement of the locking member toward and away from the flange of the rail, a lip formed on the inner end of the said member to overhang the same, and a nut mounted on the upper end of the bolt for clamping the said lip upon said flange.
2. A rail fastener comprising a rail-chair adapted to support a rail at the central por-

tion thereof, means for securing the chair to a tie, a keeper formed integrally with and arranged near one end of the chair and having an overhanging lip to receive and to
5 bear on one flange of the rail, spaced lugs formed integrally with and near the other end of the chair and adapted to bear against the other flange of the rail, a locking member mounted between the said lugs and pro-
10 vided with a longitudinal slot, a bolt mounted in the chair and traversing said slot to permit of sliding movement of the locking member toward and away from the flange of the rail, a lip formed on the inner
15 end of the said member to overhang the

same, a nut mounted on the upper end of the bolt for clamping the said lip upon said flange, and a centrally located lug formed on the upper face of the chair in a position to bear against the outer end of the locking member when the latter is clamped down by the said nut. 20

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ANDREW KUGLER.

Witnesses:

MAURICE ALLEN MARTIN,
ROSCOE E. ROBERTS.