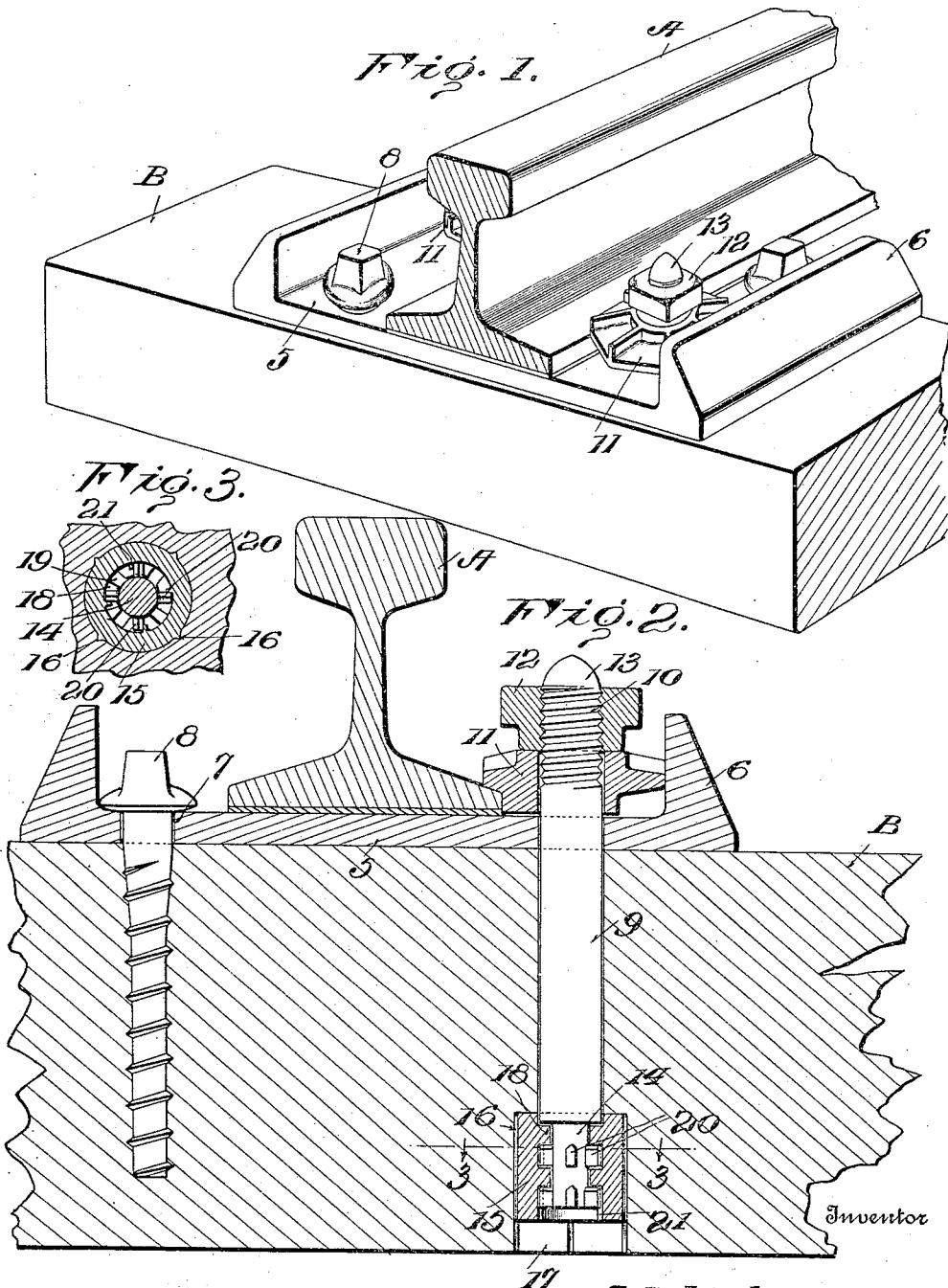


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FASTENING DEVICE FOR RAIL CHAIRS.
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1,279,728.

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FASTENING DEVICE FOR RAIL-CHAIRS.

1,279,728.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, AUGUST G. LIEBMANN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fastening Devices for Rail-Chairs, of which the following is a specification.

This invention relates to railway track appliances and more particularly to a novel form of fastening for holding rails in position on rail chairs and the like.

The principal object of the invention is to provide a fastening which may be readily inserted within and withdrawn from the upper side of a cross tie and which is positive in its action and does not depend upon the friction of the wood fibers of the tie to hold said fastening in position thereon.

A further object is to provide a fastening device including a bolt and socket member having interengaging parts whereby, when the bolt is inserted within the socket member and given a partial turn, said bolt will be held against vertical displacement.

A still further object of the invention is to so position the fastener within the cross tie that the anchoring end thereof will be spaced upwardly from the lower side of the tie and thus be housed and protected from damage and corrosion.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, portions and minor details of construction may be resorted to within the scope of the appended claims.

In the drawings:

Figure 1 is a perspective view of a rail chair, showing my improved fastening device;

Fig. 2 is a longitudinal sectional view;

Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 2 and looking in the direction of the arrows.

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.

Referring to the drawings, A represents the rail having a standard cross section, and B the tie supporting the rail. Mounted

upon the cross tie B is a bed plate 5, preferably a roll shape, although the plate may be otherwise formed, if desired. The bed plate 5 is provided with upstanding abutments 6 and is pierced by openings 7 for the reception of primary fastening devices 8, preferably in the form of screw spikes which serve to permanently secure the bed plate to the upper surface of the cross tie, as shown.

Arranged opposite each primary fastening device 8 is an auxiliary fastening device 9, preferably in the form of a bolt, the upper end of which is threaded at 10 and passes through a rail clamping member 11, there being a nut 12 engaging the threads on the bolt 9 and adapted to bear against the rail clamping member 11 for holding the latter securely in engagement with the base flange of the rail. The upper end of each bolt 9 is curved or rounded at 13, while the lower end thereof is reduced to form a cylindrical extension 14 which fits within a socket member 15. The socket member 15 is preferably cylindrical in shape and provided with spaced V-shaped anchoring ribs 16 adapted to engage the fibers of the wood of which the tie is formed when said socket member is positioned within the tie, there being an opening 17 formed in the bottom of the tie and adapted to receive the socket member, as shown. The socket member 15 is provided with a series of horizontally disposed segmental lugs 18, the end faces of which are spaced apart to form recesses 19 adapted to receive radiating lugs 20 formed on the extension 14 of the bolt 9. The upper faces of the radiating lugs 20 are preferably curved or beveled, although said faces may be flat or square, if desired. The inner wall of the tubular socket member 15 is formed with a plurality of stop ribs 21, one rib being preferably arranged opposite each segmental lug 18, the purpose of said ribs being to limit the rotary movement of the bolt 9 with respect to the socket member, as will be more fully explained hereinafter.

It will thus be seen that by causing the lugs 20 to register with the openings 19, the bolt may be lowered within the socket until the cylindrical extension 14 reaches a point near the bottom of the socket when, by giving the bolt 9 a partial rotation in either direction, the lugs 20 will ride over the faces of the segmental lugs 18 and engage the stop ribs 21, thus preventing further rotary movement of the bolt 9 and securely

anchoring the lower end of the bolt within the cross tie. In order to remove the bolt 9 to facilitate rail renewals or to replace the bolt when broken or damaged, it is merely necessary to loosen the nut 12 and partially rotate the bolt 9 until the lugs 20 thereon register with the openings 19 when the bolt may be readily withdrawn from the tie from the upper side thereof. It will be noted that the stop ribs 21 are so positioned that after the bolt 9 is inserted within the socket member, said bolt may be locked by rotating the same in either direction. It will also be noted that the lower face of the socket member 15 is spaced upwardly from the lower side of the cross tie, thus effectually protecting the anchoring end of the bolt from damage and corrosion. It will thus be seen that should the bolt 9 need replacing, for any reason, it is not necessary to remove the tie from the ballast and invert said tie, in order to remove the bolt, as is the case where the heads of the bolts bear against the bottom of the tie, it being merely necessary to loosen the nut and give the bolt a partial rotation in order to effect the removal thereof, as before stated.

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

1. The combination with a cross tie and chair, of a socket member embedded in the cross tie and having its inner wall provided with a circumferential row of spaced inwardly extending lugs, a fastening device having its lower end reduced and provided with radiating lugs co-acting with the lugs on the socket member for holding the fastening device against vertical displacement,

and a rail clamping member carried by the fastening device.

2. The combination with a cross tie and chair, of a socket member embedded in the cross tie and provided with inwardly extending horizontal lugs and vertical stop ribs, a fastening device extending through the chair and having its lower end provided with radiating lugs co-acting with the lugs on the socket member and adapted to bear against the ribs for limiting the rotary movement of the fastening device, and a rail clamping member carried by the fastening device.

3. A fastening device for rail chairs including a socket member having external anchoring ribs and internal stop ribs, and a bolt insertible within the socket member and provided with lugs adapted to bear against the stop ribs.

4. A fastening device for rail chairs including a socket member having internal horizontal lugs and vertical stop ribs arranged adjacent said lugs, and a bolt having its upper end threaded and its lower end reduced to form an extension provided with radiating lugs movable over the surface of the lugs on the socket member and into engagement with the stop ribs.

5. A fastening device for rail chairs including a socket member having internal stop ribs, and a bolt provided with lugs adapted to bear against the stop ribs when said bolt is inserted within the socket member and rotated in either direction.

In testimony whereof I affix my signature.

AUGUST G. LIEBMANN. [L. S.]

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."