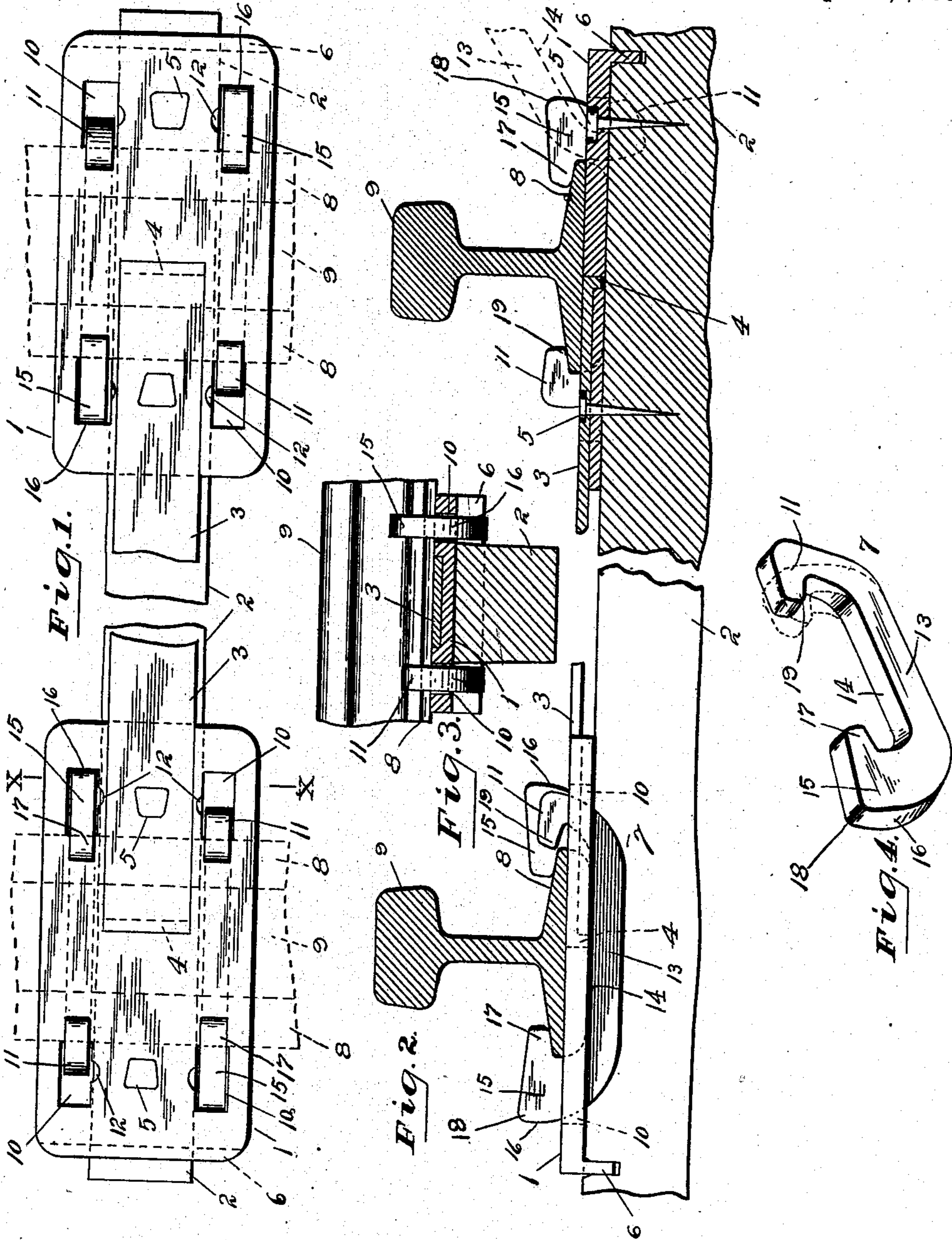


J. H. LEWIS.
RAIL TIE AND FASTENING.
APPLICATION FILED OCT. 14, 1907.

900,028.

Patented Sept. 29, 1908.



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UNITED STATES PATENT OFFICE.

JAMES H. LEWIS, OF DETROIT, MICHIGAN.

RAIL TIE AND FASTENING.

No. 900,028.

Specification of Letters Patent.

Patented Sept. 29, 1908.

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To all whom it may concern:

Be it known that I, JAMES H. LEWIS, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Rail Ties and Fastenings, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a track tie or rail chair and fastening or clamp and consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

Referring to the drawings, Figure 1 is a plan view, partially broken away, of a rail chair and clamp embodying features of the invention. Fig. 2 is a view, partially in side elevation and partially in longitudinal section, of the device. Fig. 3 is a view in cross-section on line $x-x$ of Fig. 1. Fig. 4 is a view in detail of a clamp.

As shown in the drawings, a pair of metal plates 1 somewhat wider than a tie body 2 are secured in spaced relation with their centers at track gage distance by a flat metal bar 3 thinner than the plates whose end portions lie in gains in the plates with their upper faces flush with the surface of the plates, and have depending lugs 4 which hook into transverse slots in the plates, the portion of the bar between the plates being thus supported at an interval above the tie. The chair is fastened to the face of the tie 2 by spikes 5, the inner pair of which pass through the superposed bar. A dependent transverse flange 6 at the outer end of each plate is adapted to engage a notch in the tie face and prevent endwise displacement on the tie. Clamps 7 adapted to embrace and hook over the edges of the base flange 8 of a track rail 9 are secured in slots 10 formed in the overhanging portions of the plates, one of the upturned ends 11 of each clamp being adapted to be inserted in a slot from the upper side of the plate as indicated by the dotted lines in Fig. 2, a notch 12 in the slot enabling the user to turn the clamp around to proper position, as its body 13 has a flat upper face 14 adapted to bear against the underside of the plate when forced home, the notch giving clearance for the resultant corners on the body. Furthermore the body and shanks of the ends preferably are rectangular in section so that they bear against the slots and thus hold themselves in up-

right position. The other end 15 of the clamp is adapted to fill the slot when in position with its outer end face 16 bearing against the adjacent end of the slot and has an inner projecting lip 17 of sufficient length to catch the rail flange 8 well up near the rail web and form a fulcrum so that a person stepping on the outer corner 18 of the end 15, which is left square for a foot hold, rocks the clamp up and forces the smaller end through its slot and by the rail flange, the clamp being adapted to span the rail base before being closed. By tapping this end with a spike maul as the user stands thus on the outer edge of the larger end, the clamp is bent in and grips the rail closely, the inner corner 19 of the end 11 being slightly rounded to slide up the rail base face readily. In practice the clamps of each pair may be reversed and driven home from opposite directions.

One of the advantages of the chair is its adaptability for wooden ties which cannot retain the conventional spikes at the proper places because of long continuous use, the plates being readily fastened and the thin spacing bar bridging any irregularities in the tie which need not be faced off to receive the chair save at the rail seats. Another feature is the ability to insert the clamps in place from the top of the tie, the user dropping one end of the clip through the plate, turning it around and rocking it up while standing over the rail, in new track work before the ballast is placed, and having only to remove the usual amount of ballast when ties are being withdrawn and replaced. A further feature is the simplicity and rigidity of the fastening clamps which fill the slots laterally, and bear at one end against the slot margins so that accurate gaging of the rail is very easy. In addition, the interlocking of the spacing bar and plates beneath the rail prevents disturbance or molestation of the bar and consequently spreading of the rails is avoided.

Obviously the chair may be adapted for use for ties of different types, wooden, concrete or metal, without departing from the spirit of the invention and I do not limit myself to any particular form or arrangement of parts.

What I claim as my invention is:—

1. A rail chair provided at each end with clamps adapted to embrace the base of an adjacent track rail, each clamp having a pair

of arms extended upwardly through slots in the chair which they closely fit laterally and intumed above the plate, said clamp being adapted to be inserted from the upper side
5 of the chair and turned to place, and one of said arms being adapted to fill its slot longitudinally and bear against its outer end when the clamp is in place.

2. A rail chair provided at each end with
10 clamps adapted to embrace the base of an adjacent track rail, each clamp being rectangular in section and having a pair of arms extended upwardly through substantially rectangular slots in the chair which
15 they closely fit laterally and intumed above the plate, said clamp being adapted to be inserted from the upper side of the chair and turned to place, and one of said arms being adapted to fill its slot longitudinally and
20 bear against its outer end when the clamp is in place.

3. A rail chair provided at each end with clamps adapted to embrace the base of an adjacent track rail, each clamp having arms
25 extending upwardly through slots in the chair, one of said arms having an intumed end adapted to bear at its lower corner on a rail flange when the clamp is being swung upwardly into horizontal position and an
30 upper outer corner by which it may be rocked to place and a shank completely filling the chair slot when in place, and the other end being adapted to ride up on the upper face of a rail when forced inwardly
35 toward the rail.

4. The combination with a track tie and track rails of a track chair consisting of plates each interposed between a rail and the tie and detachably connected to a spacing
40 bar bridging the tie between the plates, and clamps each having inbent arms extending upwardly through slots in the plate beside the tie which hook over the rail base.

5. The combination with a track tie and
45 track rails of a track chair consisting of plates each interposed between a rail and the tie, a spacing bar bridging the tie whose ends rest in longitudinal gains in the plate beneath the rails and hook into transverse
50 slots in the plates, the upper faces of the plates and bar being flush, and clamps each having inbent arms which extend upwardly through slots in the plates beside the tie and hook over the rail base.

6. The combination with a track tie and
55 track rails of a track chair consisting of plates each interposed between a rail and the tie and provided with a transverse dependent flange seated in a cross slot in the tie
60 face, a spacing bar bridging the tie whose ends rest in longitudinal gains in the plates beneath the rails and hook into transverse slots in the plates, the upper faces of the plates and bar being flush, and clamps each

having inbent arms which extend upwardly 65 through slots in the plates beside the tie and hook over the rail base, said clamps each having one arm which fills its slot and bears against the end thereof and being adapted to be inserted in place from the top of the 70 chair.

7. The combination with a track tie and track rails of a track chair comprising a plate wider than the tie interposed between each rail and the tie and provided with pairs 75 of rectangular slots on each side of the tie and rail, a spacing bar supported at each end above the tie in gains in the plates and hooked into transverse slots in the plates beneath the rails with its upper face flush 80 with the plate, and clamps whose ends extend upwardly through the slots and hook over the rail bases, each clamp being substantially rectangular in section, and one end of each clamp being adapted to act as a 85 fulcrum to swing the clamp to place, and being proportioned to fill its plate slot when in place, the slots being notched to permit the rotation of the clamps while being inserted.

8. The combination with a track tie and 90 track rails of a track chair consisting of metal plates each interposed between a rail and the tie and provided with a dependent transverse flange engaging a transverse slot in the tie and a pair of rectangular slots in 95 the plate on each side of the tie and of the rail, a spacing bar supported at each end in longitudinal gains in the plates under the rail and provided with a dependent transverse flange at each end engaging a transverse slot in the adjacent plate, and clamps 100 each having a rectangular body corresponding substantially in section to the plate slots and arms extending upwardly through the slots and inwardly over the rail base, one of 105 said arms having a widened shank adapted to fit the slot closely when the clamp is home, an inner lower corner adapted to engage the upper face of the rail base when the clamp is thrust down through the slot, and a 110 square upper outer corner, and the other of said arms being adapted to swing upwardly through its slot when said outer corner is depressed, and to engage the upper face of the rail base with its lower corner and grip 115 the rail base closely when forced toward the other arm, each of said rectangular plate slots having a notch in its lateral margin whereby the clamp may be inserted from 120 above the plate while inverted and turned to upright position when clear of the adjacent rail.

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

JAMES H. LEWIS.

Witnesses:

C. R. STUKNEY,
OTTO F. BARTHEL.