No. 740,282. PATENTED SEPT. 29, 1903.

J. KATZENMEYER.

RAILROAD RAIL HOLDER FOR METAL CROSS TIES.

APPLICATION FILED MAY 13, 1903.

NO MODEL.

Fig 1

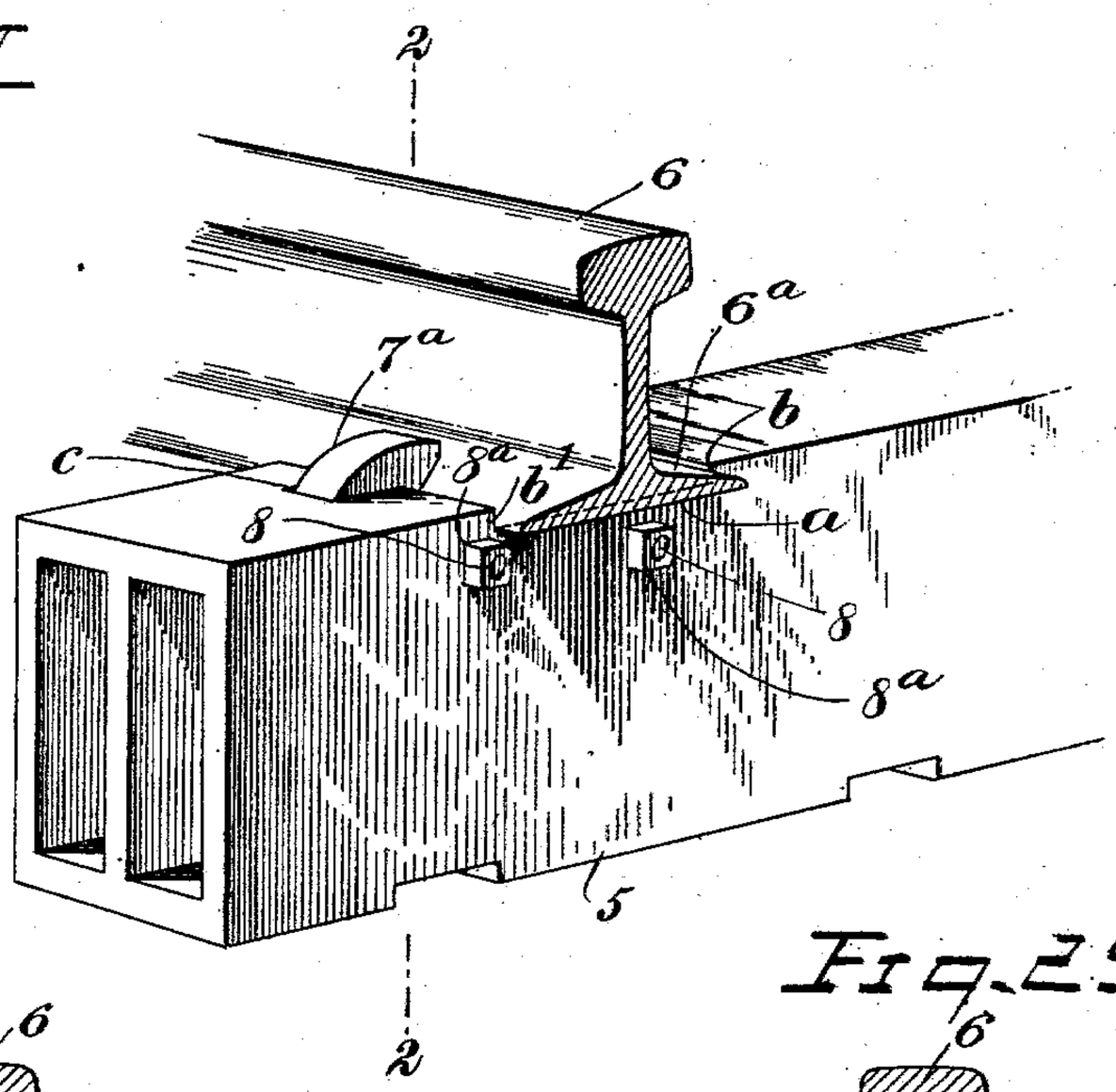


Fig 2

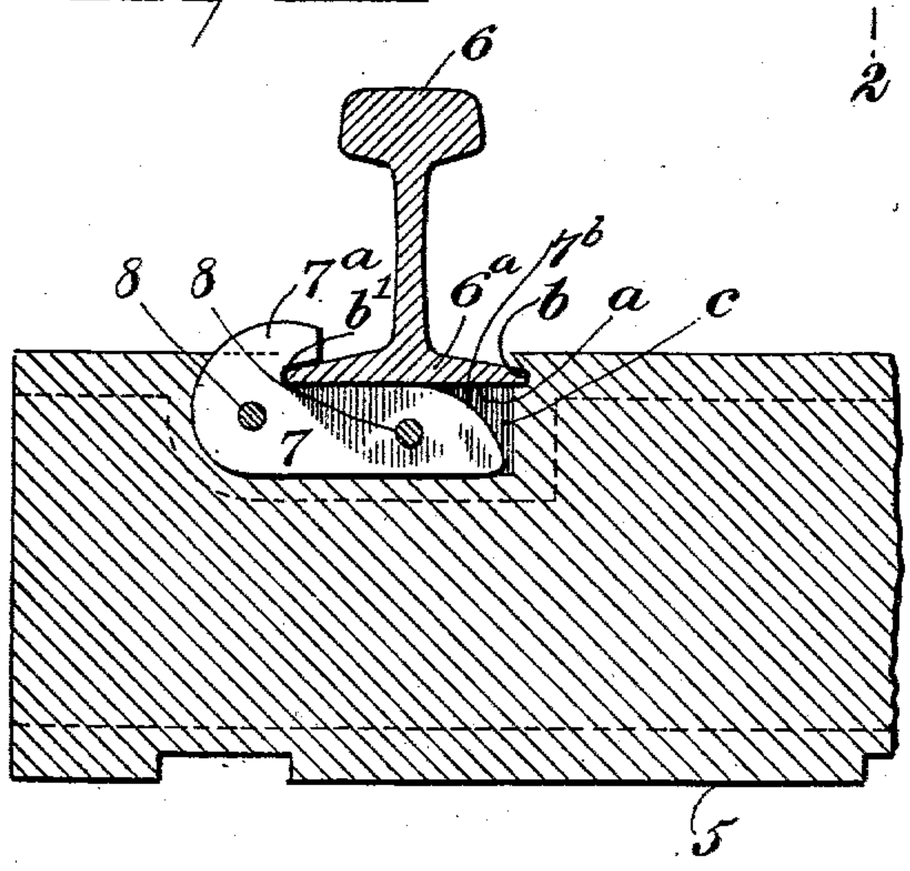


Fig 2a

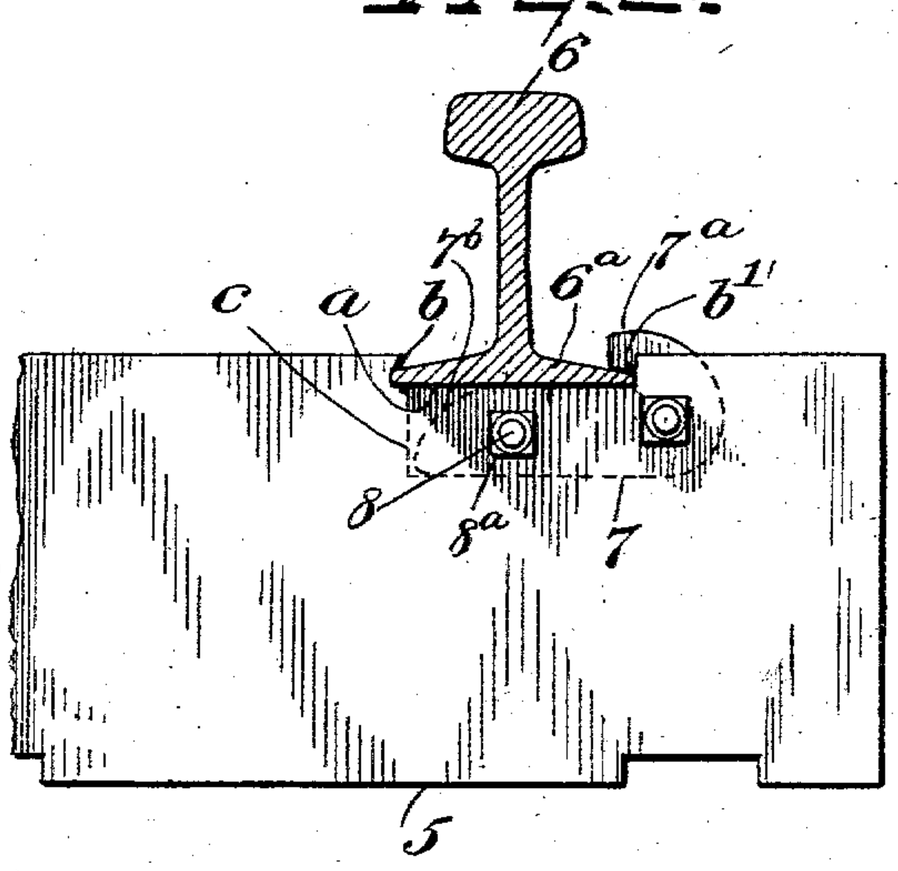
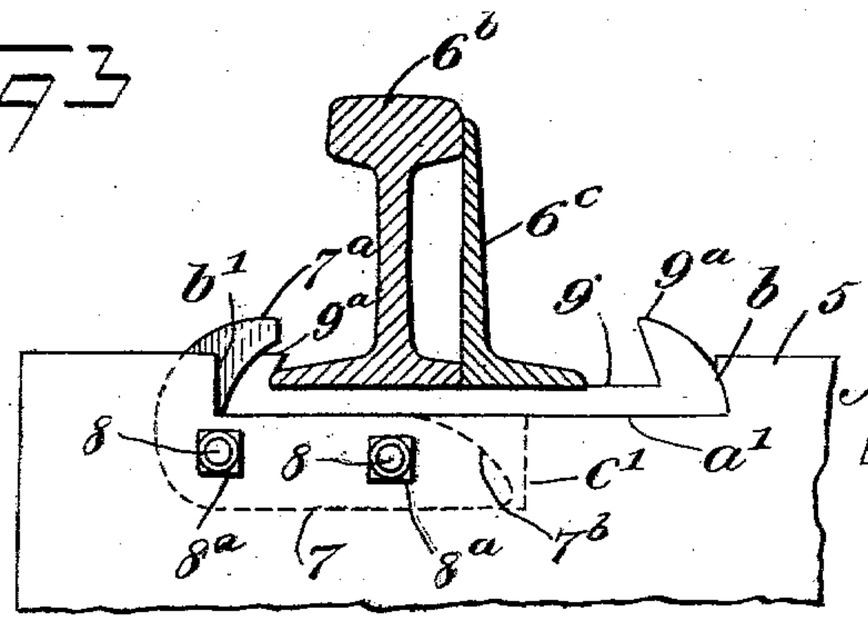


Fig 3



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No. 740,282. Patented September 29, 1903.

UNITED STATES PATENT OFFICE.

JOHN KATZENMEYER, OF KIRBY, OHIO.

RAILROAD-RAIL HOLDER FOR METAL CROSS-TIES.

SPECIFICATION forming part of Letters Patent No. 740,282, dated September 29, 1903.

Application filed May 13, 1903. Serial No. 156,927. (No model.)

To all whom it may concern:

Be it known that I, JOHN KATZENMEYER, a citizen of the United States, and a resident of Kirby, in the county of Wyandot and State of Ohio, have invented a new and Improved Railroad-Rail Holder for Metal Cross-Ties, of which the following is a full, clear, and exact description.

This invention relates to means for detachably holding the track-rails of a railroad secured upon metal or other cross-ties, and has for its object to provide novel features of construction for the purpose indicated which are simple, practical, inexpensive, and very reliable.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improvement applied for holding a track-rail upon a metal or other cross-tie. Fig. 2 is a transverse sectional view on the line 2 2 in Fig. 1, and Fig. 2ª is another transverse section taken at a different point from Fig. 2. Fig. 3 is a transverse sectional view of a track-rail and an adjacent shifting-rail at a switch held upon a cross-tie by the improved means.

In the drawings that represent the invention and its application, 5 indicates a preferably metal cross-tie of suitable dimensions, the tie-body, as shown in Fig. 1, being hollow; but it may be solid, if preferred. At a suitable distance from each end of the cross-tie 5, in the upper surface thereof, an open flat-bottomed recess *a* is formed, these recesses being disposed transversely, and in the general construction of the railroad said recesses that are spaced apart a proper distance form seats for the base-flanges 6ª on the track-rails 6, the latter being of the usual **I** shape in cross-section. When the rails 6 are to be directly bedded in the recesses *a*, one transverse wall of each recess in the cross-tie is undercut, as shown at *b*, to provide an overhanging lip, which will hook upon a contacting edge of the base-flange 6ª when the track-rails 6 are seated in the recess *a*. The opposite shoulder *b'*—that is, a side wall of a respective recess *a*—may be formed vertical, which will permit the base-flanges of the track-rails to be engaged beneath the undercut shoulders *b* and then be rocked down into close contact with the shoulders *b'* and the rails seated upon the flat bottoms of the recesses. A rectangular slot *c* is formed longitudinally in the cross-tie 5 at each recess *a*, said slots being respectively located at the transverse center of the cross-tie, cutting across and through each vertical shoulder *b'*. A rail-clamp 7 is provided for each track-rail 6, these similar clamps each consisting, essentially, of an elongated flat block formed at one end with a hook 7ª, said hook trending above the normal upper edge of the clamp-body and having such space between the nose of the hook and said upper edge as will adapt the hook to closely embrace an edge portion of a rail-base 6ª when applied thereto, and, as shown, the upper corner of the opposite end 7ᵇ of each clamp is rounded. Each clamp 7 is snugly fitted in a respective slot *c*, the latter extending a sufficient distance outside of the vertical shoulder *b'* to permit the free insertion of the body of the clamp downward and beneath the track-rail by rocking the clamp edgewise while pressing the end 7ᵇ downward and toward the rail, so that each clamp may be readily placed in position with the hook 7ª in hooked engagement with the adjacent edge of the base 6ª of a respective track-rail 6, as is shown by full and dotted lines in Fig. 2.

The cross-tie 5 is transversely perforated at two points below each recess *a*, and similar transverse perforations are formed in the body of each clamp 7, thus providing alined bolt-holes in each clamp and cross-tie for the reception of headed bolts 8—two in number for each clamp. The headed bolts 8 are of suitable length to extend through the tie-body, so that a nut 8ª may be screwed upon the threaded projecting end of each bolt and secure said bolts in place, whereby the clamps 7 are held with their hooks 7ª closely hooked upon the adjacent side edge of a respective base-flange on a track-rail 6, and said track-rail will be held reliably clamped upon the cross-ties of the road-bed. It will be seen that the clamps 7 as constructed and arranged

for service along with coöperating novel details of construction on the cross-ties afford very reliable means for detachably securing the track-rails 6 upon a series of spaced cross-ties, and that to release a track-rail from one or more cross-ties having the improvement it is only necessary to remove the bolts 8, whereupon the clamps 7 may be displaced and the track-rails raised from their seats on the cross tie or ties, as the case may be.

In Fig. 3 a special provision is shown for accommodating the shifting ends of a track-rail and frog-tongue at a switch, this detail of construction comprising the addition of a chair 9. In this case a recess a', similar to the recess a, is formed in the upper side of the cross-tie 5, but of greater length than the recess a, and the chair 9 is seated in said recess a'. As shown, the chair 9 consists of a flat plate of metal having proper area and provided at each end with a transverse flange 9^a, these flanges being inclined inward a proper degree. The recess a' has an undercut shoulder b and a vertical shoulder b', similar to the shoulders, that define the extent of the recesses a.

A clamp 7, having a hook 7^a and otherwise constructed, as hereinbefore described, is fitted in a slot c', similar to the slot c, and the clamp when introduced within the slot c' is secured therein by headed bolts 8 and nuts 8^a and held in place with the hook 7^a pressed against an adjacent transverse flange 9^a on the chair 9, thus securing the chair upon the cross-tie.

It will be seen that the track-rail 6^b and a tongue 6^c (see Fig. 3) may be seated upon the chair 9 and be actuated by suitable means that slide the tongue toward or from the rail, as usual, the chair affording a secured seat for the same.

While I have specified bolts as a means for securing the hooks 7^a in place, I desire it to be understood that I do not wish to be restricted to such means, as split keys or wedges may also be employed for the purpose.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A track-rail holder, comprising a cross-tie, having a flat-bottomed recess in its upper side, said recess having a transverse undercut shoulder at one end, the tie being longitudinally slotted across the opposite shoulder at an end of the recess, a clamp engaging in the slot and having a hook at one end, and means for detachably securing the clamp adjusted in the slot.

2. A track-rail holder, comprising a cross-tie, having a flat-bottomed recess in its upper side, said recess having an undercut transverse shoulder at one end and a vertical shoulder at the opposite end, a longitudinal slot formed across the vertical shoulder, a clamp having a hook at one end adapted to engage the base of a track-rail seated in the recess, and means for holding the hook engaged with the base of the track-rail.

3. A track-rail holder, comprising a cross-tie, having a flat-bottomed recess in its upper side, said recess having an undercut transverse shoulder at one end and a vertical shoulder at the opposite end, a longitudinal slot formed at the transverse center of the tie and across the vertical shoulder, a clamp fitting in the slot, having a rounded corner on one end and a hook turned over the top edge of the clamp-body at the opposite end, for engagement with the base-flange of a track-rail seated in the recess, bolts adapted to engage alined perforations in the cross-tie and clamp-body, and nuts on the ends of said bolts.

4. In a device of the character described, the chair for supporting a track-rail and tongue at a switch, comprising a flat plate having undercut transverse shoulders at its ends, a recess in the upper side of the cross-tie having a transverse undercut shoulder at one end and a vertical shoulder at the opposite end, said recess receiving the chair, a slot formed longitudinally in the tie across the vertical shoulder, a clamp having a hook on one end adapted to engage with a flange at one end of the chair, and bolts and nuts adapted to secure the clamp in the slot.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN KATZENMEYER.

Witnesses:
G. W. HALE,
J. S. BOWERS.