No. 764,362. PATENTED JULY 5, 1904.

O. M. KNOX.

RAIL CLIP.

APPLICATION FILED APR. 27, 1904.

NO MODEL.

Fig. 1.

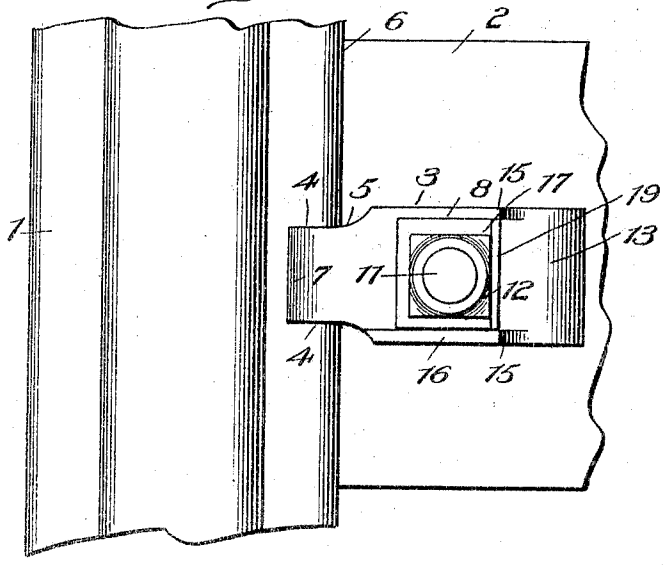


Fig. 3.

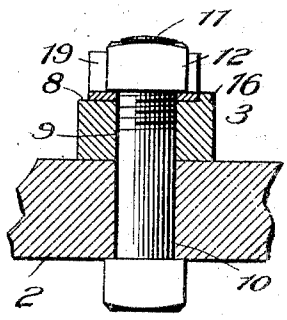


Fig. 4.

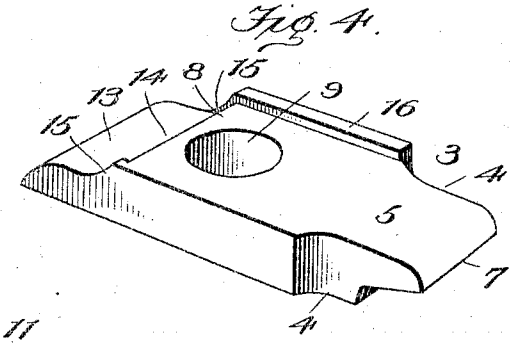


Fig. 2

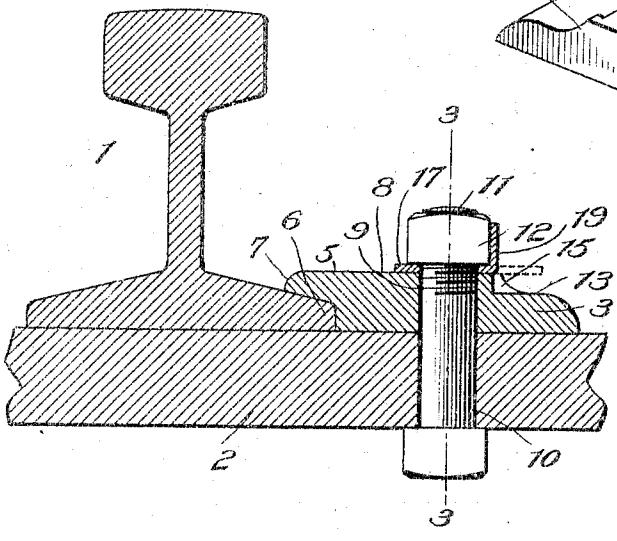


Fig. 5.

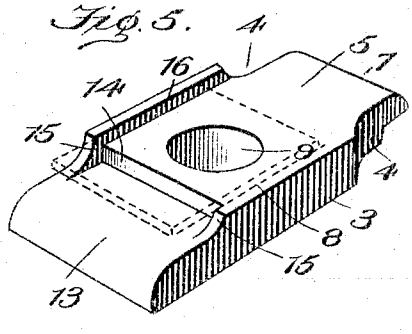
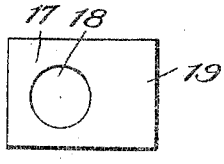


Fig. 6.



Witnesses

Edwin L. Bradford

Marie E. Finley.

Inventor

Orville M. Knox.

By C. C. Hines,

Attorney.

No. 764,362. Patented July 5, 1904.

UNITED STATES PATENT OFFICE.

ORVILLE M. KNOX, OF ONEIDA, NEW YORK.

RAIL-CLIP.

SPECIFICATION forming part of Letters Patent No. 764,362, dated July 5, 1904.

Application filed April 27, 1904. Serial No. 205,186. (No model.)

To all whom it may concern:

Be it known that I, ORVILLE M. KNOX, a citizen of the United States, residing at Oneida, in the county of Madison and State of New York, have invented certain new and useful Improvements in Rail-Clips, of which the following is a specification.

My invention relates to means for connecting railway-rails to their supporting ties or sleepers, and particularly to a combined clip and lock-nut, whereby the rail may be held firmly in position upon the tie and the nut upon the securing-bolt of the clip effectually retained against working off and allowing the bolt and clip to become loosened or disconnected.

One object of the invention is to provide a simple, cheap, and effective clip which will firmly clamp the flange of the rail and also hold a nut-engaging washer against retrograde rotation; and a further object is to provide a clip of this character so constructed as to facilitate the bending of the washer to engage or release the nut.

With these and other objects in view, which will appear in the course of the subjoined description, the invention consists in the features of construction and combination of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view showing the application of the invention to a tie and rail. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a detail cross-section taken on the line 3 3 of Fig. 2. Figs. 4 and 5 are perspective views of the clip. Fig. 6 is a plan view of the washer as it appears in its primal form.

Referring now more particularly to the drawings, 1 designates the rail to be secured, 2 the tie or sleeper supporting the rail, and 3 my improved clip. The tie 2 may be a metallic tie of any preferred construction.

The clip 3 consists of a casting, preferably of oblong rectangular form, the sides of which are incurved or cut away at one end, as shown at 4, to lighten the structure and provide a reduced portion 5, which abuts against the inner edge of the base-flange 6 of the rail. This reduced portion is provided with a projecting clamping-jaw 7 to bear upon the inwardly-extending portion of the flange 6 and hold the rail down upon the tie 2. The upper surface of the central portion of the clip 3 is flat or plane-surfaced to form a seat 8 for a purpose presently described, and extending through the body of the clip is an opening 9, which coincides with an opening 10 in the tie 2, said openings serving for the passage of a securing-bolt 11, the head of which bears against the under side of the top of the tie 2, while the threaded shank thereof extends a sufficient distance above the seat 8 of the clip to receive a nut 12, whereby the clip is fastened to the tie. At the end opposite the reduced portion 5 the clip is formed with an outwardly and downwardly curved or beveled face 13, serving as a fulcrum ledge or shelf, and at the point where this ledge or shelf joins the body of the clip the body portion is provided with a vertical transverse shoulder 14, bounded by end stops or projections 15 and forming the inner boundary wall or terminal of the seat 8. The bolt hole or passage 9 is disposed in close proximity to this shoulder 14 and in closer proximity to one side of the clip than to the other side, and along the first-named side extends a longitudinal flange 16, the inner side or wall of which is arranged at right angles to the seat 8. The seat 8 serves as a support for a washer 17, consisting of an oblong rectangular plate of the primary form shown in Fig. 6, said plate being provided with an eccentrically-disposed bolt-hole 18 for the passage of the bolt 11 and arranged between the seat 8 and nut 12 and clamped by the latter against said seat. One of the side edges of the washer engages the inner side or wall of the flange 16, whereby the washer is held from rotation, and by reason of the eccentric disposition of the hole 18, which is located nearer one end of the washer, the opposite end thereof is caused to provide a wing 19 of such length as to project beyond the shoulder 14 when the parts are primarily assembled as indicated by dotted lines in Fig. 5. This wing is adapted to be bent up to engage one of the sides of the nut, as shown in Figs. 1, 2, and 3, to hold the nut against re-

trograde rotation. It will thus be seen that as the washer itself is held from movement by the flange 16 and the nut by the wing 19 all liability of the nut working loose and allowing the clip to shift or become detached is effectually avoided, and thus the rail will be securely clamped against movement.

In applying the parts to clamp the rail the bolt 11 is passed up through the opening 10 in the tie and opening 9 in the clip after the latter has been placed in position, the washer laid upon the seat 8 with the bolt projecting through the opening therein, and the nut then screwed home upon the bolt to secure the parts together and upon the tie, and, finally, the wing of the washer is bent up to engage the nut. This operation of bending up the wing is performed by inserting the end of a suitable tool into the space beneath the ledge or shelf 13 and projecting end of the washer, the shoulder 14 serving as a stop to properly gage the position of the tool, and then the tool is used to pry or bend the wing upward to a substantially vertical position, so as to engage one of the sides or corners of the nut. Lateral shifting of the tool at the outset of the bending operation is prevented by the stops 15, while the ledge or shelf forms the fulcrum on which the tool may rock in describing its arc of movement. The curved or beveled form of the shelf, which provides a flaring entrance to the space referred to, facilitates the application of the tool and allows the same to ride outward when operated to enable the wing to be easily bent into position.

It will be seen that a rail-fastening constructed in accordance with my invention, as shown and described, is simple, cheap, durable, and efficient and cannot possibly become accidentally disconnected from the rail unless torn bodily away with its fastening, while upon bending the wing back to its normal position it may be readily manually released to enable repairs to be made to the track structure or a new rail substituted for a damaged or worn-out one.

While the preferred embodiment of the invention is as herein disclosed, it will of course be understood that I reserve the right to make such changes or modifications as fairly fall within the spirit and scope of the invention.

Having thus described my invention, what I claim is—

1. A rail-fastening provided with a bolt-hole and a supporting-seat for a nut-lock device, and a flange extending above the plane of said seat to engage and hold said nut-lock device from rotation, substantially as described.

2. A clip for connecting rails to ties, comprising a body portion having a jaw to engage the rail, a bolt-hole, a nut-lock-engaging flange or projection, a shoulder, and a fulcrum ledge or shelf projecting beyond said shoulder, substantially as described.

3. A clip for connecting rails to ties, comprising a body portion having at one end a jaw to engage the rail, a bolt-hole, a nut-lock-engaging flange at one side of the bolt-hole, and a fulcrum ledge or shelf at right angles to the flange and at the opposite end from the jaw, substantially as described.

4. A clip for connecting rails to ties, comprising a body portion having a washer-supporting seat provided at one side with a washer-engaging flange, and having a bolt-hole, a rail-engaging jaw at one end of the seat, and a fulcrum ledge or shelf at the opposite end of the seat and at right angles to the flange, substantially as described.

5. A rail-clip provided with a hole for passage of a securing-bolt and having means for holding a nut-lock device against rotation and a support for a tool to adjust said device into engagement with the bolt-nut, substantially as described.

6. A rail-clip comprising a body portion provided with a washer-supporting seat, a jaw at one end of said seat, a shoulder at the opposite end of the seat, a ledge or shelf extending from said shoulder, and a flange at one side of said seat to hold the washer from rotation, substantially as described.

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

ORVILLE M. KNOX.

Witnesses:
EVA MCKENNA,
JOHN R. LOOMIS.