

(No Model.)

2 Sheets—Sheet 1.

A. G. E. WESTMACOTT & J. P. HUTCHINSON.

RAILWAY TRACK FASTENING.

No. 471,583.

Patented Mar. 29, 1892.

Fig. 2.

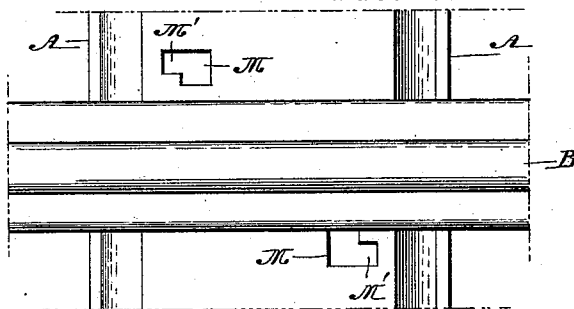


Fig. 3.

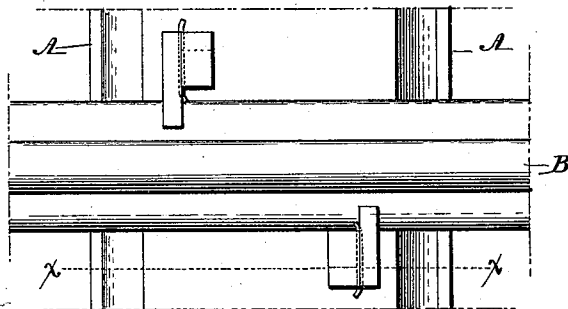


Fig. 4.

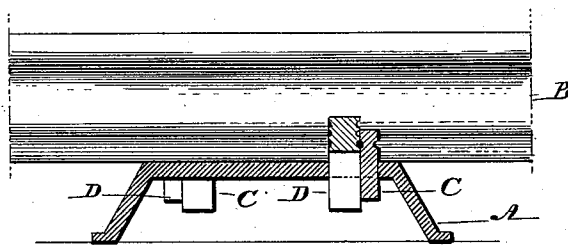
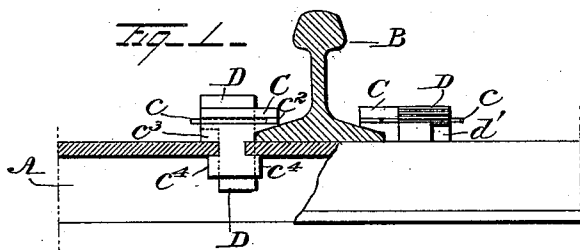


Fig. 5.



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(No Model.)

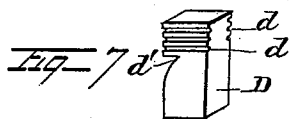
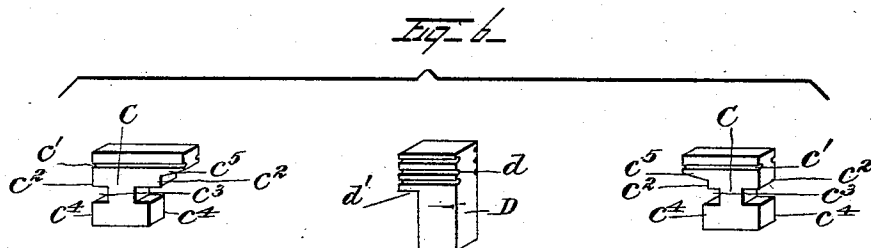
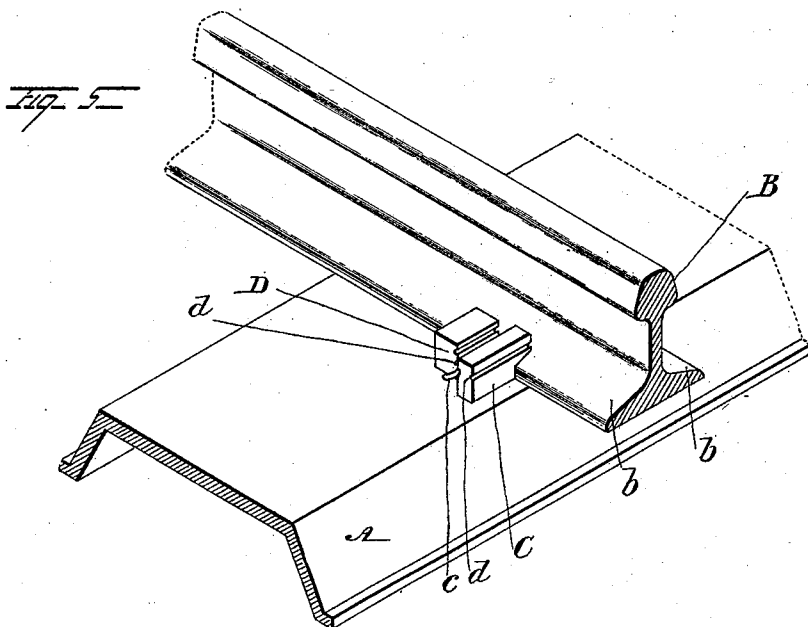
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

ALEXANDER G. E. WESTMACOTT AND JAMES PEMBERTON HUTCHINSON, OF
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RAILWAY-TRACK FASTENING.

SPECIFICATION forming part of Letters Patent No. 471,583, dated March 29, 1892.

Application filed April 7, 1891. Serial No. 388,008. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER G. E. WESTMACOTT, a subject of the Queen of Great Britain, and JAMES PEMBERTON HUTCHINSON, a citizen of the United States, both residing at Newtown, Bucks county, State of Pennsylvania, have jointly invented certain new and useful Improvements in Railway-Track Fastenings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

Our invention relates to clamping devices for adjustably securing together metallic surfaces, and is applicable more particularly to the fastening of the base-flange of railway-rails to metallic or other sleepers or cross-ties, and our improvements constitute a simple and inexpensive device for the purpose of readily permitting the removal at pleasure of the parts so united and requiring no skilled labor in its use and application; and to that end it consists of the construction and arrangement of the parts, as hereinafter more particularly set forth.

In the drawings representing our invention as applied to securing a T-rail to a metallic sleeper, Figure 1 is a vertical section laterally through the sleeper and rail centrally between the two sets of fastenings, which are on either side, showing one of them in section through its longitudinal center and the other of them in elevation. Fig. 2 is a plan view of a rail mounted on a metallic sleeper, intended to show the openings in the latter and their position relatively to the base-flange of the rail. Fig. 3 is a like view with the clamping device in position in these openings and embracing the base-flange of the rail. Fig. 4 is a vertical sectional view through the line *xx* of Fig. 3. Fig. 5 of Sheet 2 is a perspective view of a T-rail mounted on a metallic cross-tie and secured thereto by our improved clamping device, a similar clamping device being upon the other side of the rail and therefore not shown in this figure. Fig. 6 are views in elevation of the two forms of clamp used by us and the wedge to secure such clamp in the L-shaped slots or openings in the sleeper or tie. Fig. 7 is a modification of the wedge to permit of its more easy removal.

The essential elements of our invention are, first, the provision of L-shaped slots or openings *M M'* (see Fig. 2) in the face of the cross-tie or other surface to which the base-flange of the rail or other surface is to be adjustably clamped, and, secondly, the provision for insertion in said L-shaped slots of a clamp *C C*, (see Fig. 6,) constructed as therein shown—that is to say, a clamp having lower projections *c⁴* on either side with upper projections *c²* on either side and a square neck *c³* between said sets of upper and lower projections, the upper projection on one side of the square neck being extended to form an overhanging lip and which may be beveled, as at *c⁵*, to conform to the usual curvature of the base-flange of a rail if it is to be applied to the clamping of such surfaces. Thus the top projection on one side above the square neck and which is intended to grip the metal surfaces together should conform in shape on its under surface to the upper surface of the metal to be clamped to the tie or other fixture, and so also should the upper surface of the opposite lower projection *c⁴* conform in shape to the under surface of the hollow metallic sleeper or other surface to be clamped. By reference to said Fig. 6 and also to Fig. 1, the latter showing such a clamping device in position, it will be observed that the overhanging lip rests upon and grips the flange of the rail, while the under projections *c⁴* extend by means of the square neck *c³* beneath the under surface of the metal around the edge of the L-shaped opening in the metallic tie or sleeper, and thus bind the same and prevent the lifting out of said opening of the clamp *C* after it has been finally fixed in position in said slot or opening.

When this clamping device is to be used for securing rails to ties or sleepers, the lower part of the clamp is inserted longitudinally in the slotted opening in the sleeper, and it will be observed that this slot (see Fig. 2) consists of a wide portion *M* and a narrow portion *M'*, and when arranged parallel with the flange of the rail are of the form of the letter *L*, and must be so arranged that the base of the *L* shall be at right angles with the rail and with the narrow portion *M'* of the slot facing the same. These slotted openings are

constructed in size relative to the aggregate length of the lower projections c^4 of the clamp and of the square neck, while the width of the narrow portion M' of the slot will correspond in width with the square neck c^3 of the clamp. The clamp is inserted longitudinally in the slot until its lower projections c^4 pass beneath the under surface of the sleeper, the neck c^3 corresponding in height to the thickness thereof, and the clamp is then turned in the slot at right angles to the flange of the rail, so that the overhanging lip c^2 will rest upon said flange, and the neck c^3 is then pushed laterally into the narrow portion M' of the slotted opening in the sleeper and fills said narrow portion, leaving the wide portion M , which is the base of the L open. Thus a clamp is provided which, in connection with the slotted opening constructed as stated, binds together the flange of the rail with the sleeper in which said slot is provided. In order to prevent a movement of said clamp laterally into the wide portion M of the slot, we provide a wedge D , (shown in Figs. 1, 6, and 7,) which has an overhanging head d' . The body of this wedge is driven down into the wide opening M in the slot and fills the space, leaving the head d' projecting above the upper surface of the sleeper, and in order to prevent a movement of this wedge vertically we provide channels c' on the inner faces of the clamp and d on the faces of the wedge, and insert in said channels (which are arranged opposite each other in the clamp and wedge) metal pins c , fitting said channels, which metal pins may after insertion be bent over at their ends, as shown in Fig. 3, to prevent dropping out. It will be observed that by this mode of fastening the rail is held securely to the sleeper and yet may be easily removed therefrom by withdrawing the metal pins c , removing the wedges D , and moving the neck of the clamp into the wide portion M of slot, then turning around the clamp C to bring it parallel with the rail and longitudinally within the slot M , when the lower projections c^4 of the clamp can be readily lifted out through said slot in the same manner as originally inserted therein.

In order to provide for increase of gage on curves or other points, where necessary or desired, we prefer to leave a space between the edge of the flange of the rail and the inner

edge of the slot, as shown in Figs. 2 and 3, and lengthening the overhanging lip c^2 , as shown on the left-hand side of Fig. 6. The gage may be thus increased by moving the rail up to the edge of the wide part M of the slot in the sleeper, and this device may be provided on either or both rails, (but not necessarily on both sides thereof,) according to the increase of gage desired, and the long or short lipped clamps (shown in Fig. 6) used and adjusted to suit such change of gage.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a rail-fastening device, the combination, with a flange of the rail and with the surface of the underlying tie, of an L -shaped slot in the latter arranged with relation to the rail, substantially as shown and set forth, and a clamp having an upper projection c^2 and a lower projection c^4 with a square connecting-neck c^3 between them, said clamp being adapted in size to be inserted in the slot in one direction, and the square connecting-neck thereof to fill the narrow portion of the slot when moved therein in the other direction and thereby brought to its final position therein, substantially as described.

2. In a fastening device, the combination, with a flange of the rail or other object and with the surface of the underlying tie or other object to be clamped thereto, of an L -shaped slot in the latter arranged with relation to the upper surface to be clamped, substantially as shown and set forth, and a clamp having double upper projections c^2 c^2 and double lower projections c^4 c^4 with a square connecting-neck c^3 between them, the said L -shaped slot being adapted in size to fit said clamp in one direction and the square neck thereof in the other direction, with a wedge adapted to close the remaining space in the slotted opening after the clamp shall have been brought to its final position therein, substantially as described.

In testimony whereof we have hereunto affixed our signatures this 28th day of March, A. D. 1891.

ALEXANDER G. E. WESTMACOTT.
JAMES PEMBERTON HUTCHINSON.

Witnesses:

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