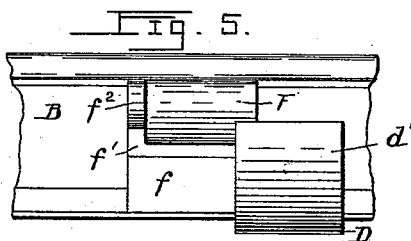
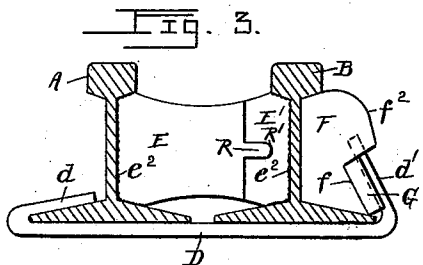
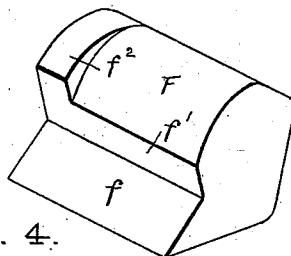
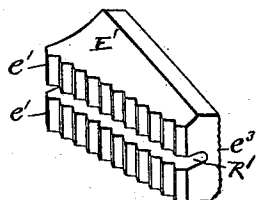
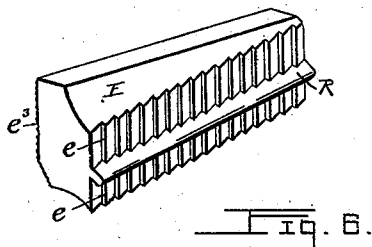
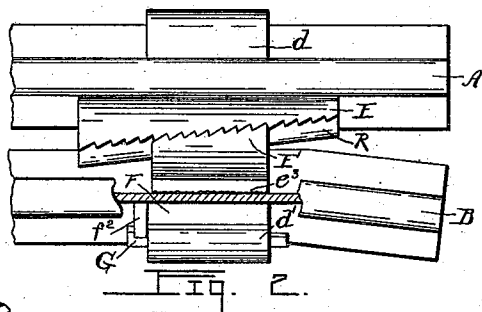
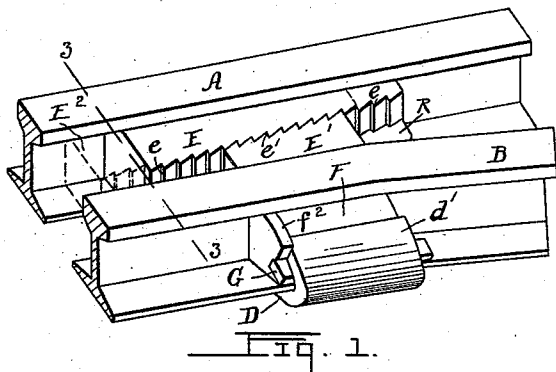


(No Model.)

R. BLICKENDERFER.
RAIL CLAMP.

No. 549,762.

Patented Nov. 12, 1895.



Witnesses

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UNITED STATES PATENT OFFICE.

RICHARD BLICKENDERFER, OF LANCASTER, PENNSYLVANIA, ASSIGNOR TO
THE STANDARD GUARD-RAIL FASTENER COMPANY, OF SAME PLACE.

RAIL-CLAMP.

SPECIFICATION forming part of Letters Patent No. 549,762, dated November 12, 1895.

Application filed August 14, 1895. Serial No. 559,206. (No model.)

To all whom it may concern:

Be it known that I, RICHARD BLICKENDERFER, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Rail-Clamps, of which the following is a specification.

This invention relates to improvements in that class of devices designed for securing contiguous rails together, so that the relative position of the same may be adjusted transversely; and it especially refers to the securing of guard-rails to the main rails of a track opposite frog-points and other similar places where derailment is particularly liable to occur. There have been objections to the devices generally employed for this purpose, because of the expense and difficulty in applying the same and the time and labor required to manipulate them. In these devices either the bases of the rails must be cut or holes must be drilled in the webs thereof, and when such is the case the cuts and the holes must be made in exact relation to certain parts of the clamp, or, in other cases, the guard-rail must be raised to connect the clamp therewith or to adjust it with reference to the main rail, or filling blocks or plates must be transposed or withdrawn. My invention overcomes these objections, the objects of the same being, first, to securely clamp the guard-rail to the main rail without cutting either of the rails or drilling any holes therein, and, second, to move the guard-rail to or from the main rail and secure the same in its new position by the simple manipulation of the wedge locking the parts in place and by the longitudinal adjustment of separator-blocks between the rails.

The invention consists in the construction and combination of the various parts, as hereinafter fully described, and then pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective view of a main rail and a guard-rail secured together by a clamp embodying my invention; Fig. 2, a top plan view of the same, a portion of the head of the guard-rail being cut away; Fig. 3, a vertical section on broken line 3 3 of Fig. 1; Fig. 4, a perspective view

of the filling-block, and Fig. 5 a side view showing the filling-block as it is being inserted into its place. Fig. 6 is a perspective inner face view of the two separator-blocks. Similar letters indicate like parts throughout the several views.

Referring to the details of the drawings, A indicates the main rail, and B the guard-rail.

D designates a clamp adapted to take under the bases of rails A and B and having on one end a hook *d*, that embraces the outer edge of the base of one of the rails, preferably that of the main rail, as shown. The other end *d'* of the clamp is upturned and inclined toward the adjacent rail to form a bearing, for a purpose to be explained.

E E' indicate separator-blocks interposed between the main rail and the guard-rail to maintain the distance between them. These separator-blocks are wedge-shaped, that shape being given them by tapering the blocks on the inner or contiguous faces thereof. When located between the rails, these blocks are placed with the butt and point of one bearing, respectively, toward the point and butt of the other, so that the combined blocks have a uniform width throughout their length. Blocks E E' have similar vertical saw-tooth ribs *e e'*, respectively, formed on their meeting-faces, said ribs being so disposed that those on one block engage between those on the other block. The outer faces *e²* of the blocks are constructed to fit snugly up to the parts of the rails with which they are in contact, and those faces are roughened or serrated, as shown at *e³*, Figs. 2 and 6, to increase the friction between said blocks and the contacting surfaces of the rails. On the ribbed face of one of these blocks—block E in this case—is a horizontal rib R, and in the face of the other separator-block E' is a corresponding horizontal groove R', adapted to receive rib R.

F indicates a filling-block, adapted to be interposed between the web of the rail and the bearing *d'* of clamp D and having its base and its inner face fitting snugly against the base and web of the rail. The lower portion *f* of the outer face of this block is inclined from its bottom edge inward toward the rail, and along the upper edge of this inclined face

f the upper part of the block projects outward, forming a shoulder *f'*. On one end of shoulder *f'* is an outwardly-extending lip *f*², constructed to engage the side of end *d'* of said clamp.

G represents a wedge that is inserted between the bearing *d'* of the clamp and the inclined face *f* of filling-block F, and which, acting through the filling-block, clamps the guard-rail B in its proper position relative to main rail A.

In clamping the rails together, separator-blocks E E' and clamp D being in position, the filling-block F is first put in place by sliding it along against the web of the rail and between the same and the bearing *d'* of the clamp, with the end opposite lip *f*² in front, until said lip bears against upturned end *d'*. Then the small end of wedge G is inserted from the side of lip *f*² into the opening between said bearing *d'* and the inclined face *f* of filling-block F. Lip *f*² prevents the disengagement of filling-block F from clamp D while the wedge is being driven home, said lip and the clamp then retaining the filling-block in place. The separator-blocks E E' hold the rails the proper distance apart. The interlocking teeth *e e'* prevent longitudinal movement of said separator-blocks upon each other and the friction between the roughened or serrated faces *e*³ of the separator-blocks and the adjacent faces of the rails prevents longitudinal movement of said blocks along the rails. To change the distance between the rails, the wedge G is loosened or removed and then one of the regulator-blocks is shifted along the face of the other, as indicated by broken line E², Fig. 1, when the parts are again clamped together by replacing the wedge. As the clamping force is applied to the lower part of the rail, there is a tendency to draw the upper portions of the interlocking teeth *e e'* apart, loosening the grip of said teeth upon each other. This tendency is overcome by the engagement of horizontal rib R with groove R'.

The roughening or serrating of the faces *e*³ of the separator-blocks is not essential to the retention of those blocks in place, for the friction between the parts when they are clamped in position is such as to firmly bind those blocks between the rails. The lip *f*² may also be omitted from the filling-block F, though I prefer to use it. If preferable, any desirable device may be resorted to to lock the wedge in place; but I have not shown or described any such device, as it forms no part of my invention. It is not necessary that the interlocking parts on the faces of the separator-blocks be vertical ribs, for any equivalent device, such as a horizontal row of studs on one separator-block and a corresponding row of recesses in the other, or any other similar construction, will answer the purpose. If the studs and their corresponding recesses are made of sufficient depth, the rib R and recess R' can be dispensed with.

I do not confine myself to the details of construction herein shown and described, as it is obvious that many changes may be made therein without departing from the principle and scope of my invention.

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

1. The combination, in a rail-clamp, of two rails, a clamp uniting the rails, lapping separator-blocks between the rails, said separator-blocks being wedge-shaped and having the point of each bearing toward the butt of the other, and a horizontal rib on one separator-block engaging a groove in the other separator-block, for the purpose specified.

2. The combination, in a rail-clamp, of two rails, a clamp uniting the rails, lapping separator-blocks between the rails, said separator-blocks being wedge-shaped and having the point of each bearing toward the butt of the other, interlocking series of projections and recesses formed lengthwise of the separator-blocks, and a horizontal rib on one separator-block engaging a groove in the other separator-block, for the purpose specified.

3. The combination, in a rail-clamp, of two rails, a clamp uniting the rails and having an upturned bearing on one end thereof, lapping separator-blocks between the rails, said separator-blocks being wedge-shaped and having the point of each bearing toward the butt of the other, interlocking series of projections and recesses formed lengthwise of the separator-blocks, a horizontal rib on one separator-block engaging a groove in the other separator-block, a filling-block located between the upturned bearing on the clamp and the adjacent rail, and a wedge between the upturned bearing and the filling-block, for the purpose specified.

4. The combination, in a rail-clamp, of two rails, a clamp uniting the rails, lapping separator-blocks between the rails and having the faces thereof in contact with said rails roughened or serrated, said separator-blocks being wedge-shaped and having the point of each bearing toward the butt of the other, and a horizontal rib on one separator-block engaging a groove in the other separator-block, for the purpose specified.

5. The combination, in a rail-clamp, of two rails, a clamp uniting the rails, lapping separator-blocks between the rails and having the faces thereof in contact with said rails roughened or serrated, said separator-blocks being wedge-shaped and having the point of each bearing toward the butt of the other, interlocking series of projections and recesses formed lengthwise of the separator-blocks, and a horizontal rib on one separator-block engaging a groove in the other separator-block, for the purpose specified.

6. The combination, in a rail-clamp, of two rails, a clamp uniting the rails and having an upturned bearing on one end thereof, lapping separator-blocks between the rails and

having the faces thereof in contact with said rails roughened or serrated; said separator-blocks being wedge-shaped and having the point of each bearing toward the butt of the other, interlocking series of projections and recesses formed lengthwise of the separator-blocks, a horizontal rib on one separator-block engaging a groove in the other separator-block, a filling-block located between the upturned bearing on the clamp and the adjacent rail, and a wedge between the upturned bearing and the filling-block, for the purpose specified.

7. The combination, in a rail-clamp, of two rails, a clamp extending under the same having a hook on one end thereof embracing the outer edge of the base of one of the rails, an upturned bearing on the other end of the clamp, lapping separator-blocks between the

rails and having the faces thereof in contact with said rails roughened or serrated, said separator-blocks being wedge-shaped and having a point of each bearing toward the butt of the other, series of interlocking vertical ribs on the meeting faces of said separator-blocks, a horizontal rib on one separator-block engaging a groove in the other separator-block, a filling-block located between the upturned bearing on the clamp and the adjacent rail, a lip on the filling-block engaging the side of said upturned bearing, and a wedge between the upturned bearing and the filling-block, substantially as and for the purpose specified.

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Witnesses:

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