C. W. REINOEHL & W. M. HENDERSON.

H. B. REINOEHL, ADMINISTRATRIX OF C. W. REINOEHL, DEC'D.

GUARD RAIL CLAMP.

APPLICATION FILED APR. 17, 1908.

987,400.

Patented Mar. 21, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

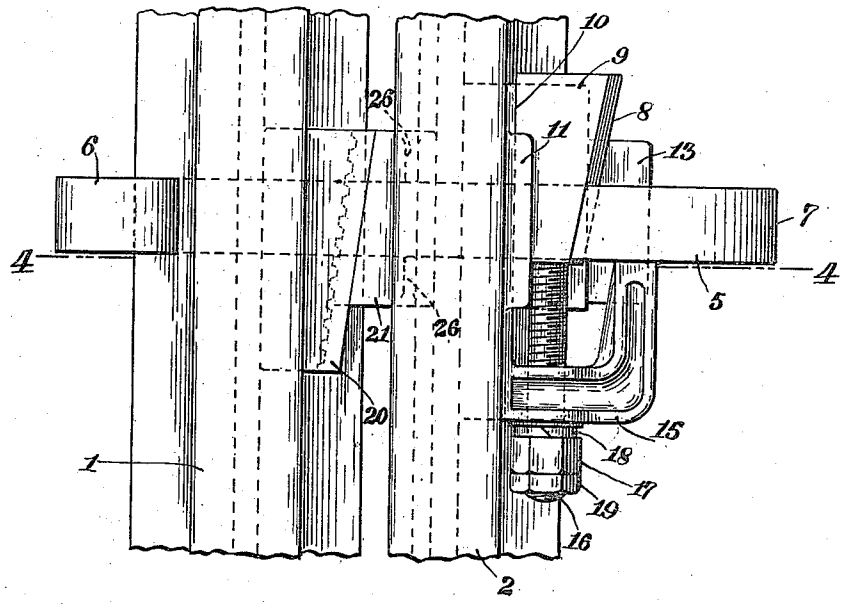
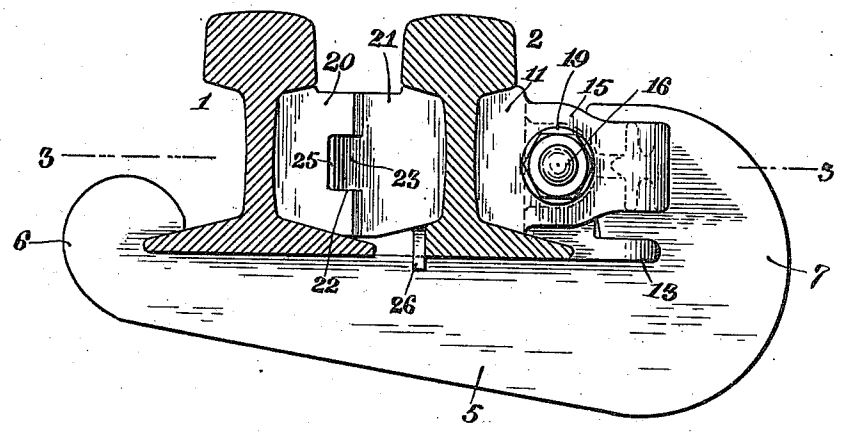


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

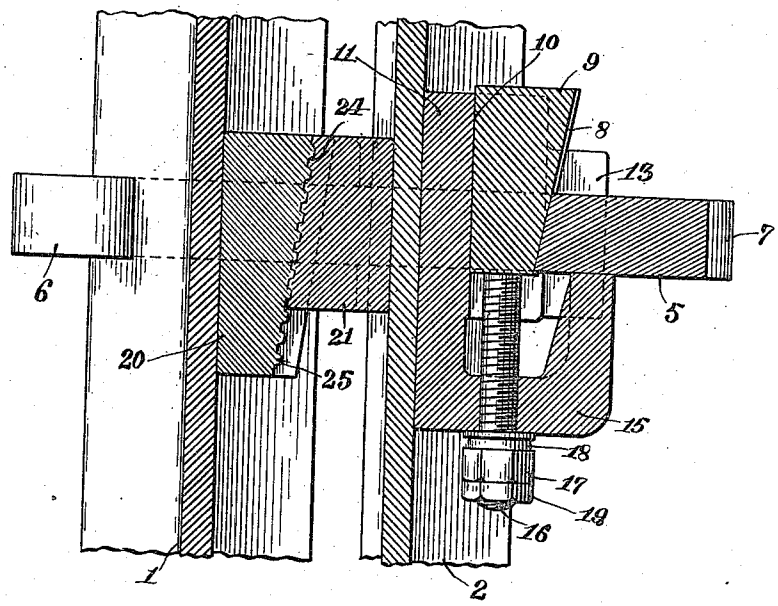
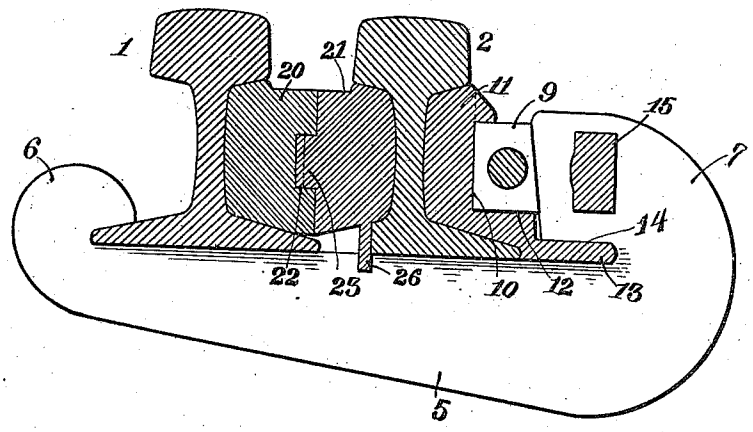


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES W. REINOEHL, OF STEELTON, AND WILLIAM M. HENDERSON, OF HIGH SPIRE, PENNSYLVANIA; HELEN B. REINOEHL, OF STEELTON, PENNSYLVANIA, ADMINISTRATRIX OF SAID CHARLES W. REINOEHL, DECEASED.

GUARD-RAIL CLAMP.

987,400. Specification of Letters Patent. **Patented Mar. 21, 1911.**

Application filed April 17, 1908. Serial No. 427,561.

To all whom it may concern:

Be it known that we, CHARLES W. REINOEHL and WILLIAM M. HENDERSON, citizens of the United States, said REINOEHL residing at Steelton, Dauphin county, State of Pennsylvania, and said HENDERSON residing at High Spire, Dauphin county, State of Pennsylvania, have invented certain new and useful Improvements in Guard-Rail Clamps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to guard rail clamps, our object being to provide a simple, durable, and efficient clamping device which may be adjusted to firmly secure and maintain the guard rail in proper relation to the main rail of a railroad.

The invention consists in the novel construction and combinations of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the drawings:—Figure 1 is a plan view of our improved clamping device as applied to a main or stock rail and guard rail of a railroad, the rails being partly broken away. Fig. 2 is an elevation thereof. Fig. 3 is a horizontal section as on the line 3—3 of Fig. 2. Fig. 4 is a vertical section, as on the line 4—4 of Fig. 1.

1 designates the main or stock rail, and 2, the guard rail, arranged parallel and adjacent thereto. Extending transversely beneath the rails 1 and 2 and in engagement with the bottoms of the foot flanges thereof is a yoke-frame 5, one end 6 of which extends over and into engagement with the outer edge of the foot flange of the main rail, 1. The other end 7 of the yoke-frame 5 extends beyond the outer edge of the foot flange of the guard rail 2, and then upwardly and inwardly toward the guard rail, as shown. The inturned end 7 of the yoke frame 5 is inclined or beveled with relation to the rails, as shown, and engaging the beveled end 7 of the yoke-frame 5 is the beveled face 8 of a wedge 9, the opposite face 10 of which is parallel to the rails. Between the face 10 of the wedge 9 and the guard rail 2, is a block or member 11, which is fitted to engage the under side of the head, the vertical web, and the top of the foot flange of the guard rail 2, and in which is formed a horizontally extending groove 12, in which the wedge 9 rests so that said wedge may be adjusted longitudinally within said groove. The lower portion of the block or member 11 is provided with an outwardly projecting flange 13, which extends into a socket 14, formed between the upwardly and inwardly turned end 7 of the yoke frame 5 and the main body thereof. The block or member 11 extends laterally of the yoke frame 5, and one end of the block is provided with an arm 15, which extends first away from the block 11 parallel to the yoke-frame 5, and then toward and into engagement with the yoke frame 5, so as to prevent movement of the block 11 in the direction of the engagement of the arm 15 with the yoke frame 5.

The wedge 9 is provided with a screw 16, which extends from the smaller end of the wedge through and beyond an opening in the arm 15. Fitted to the extending end of the screw 16 is a nut 17, between which and the arm 15 is interposed a split washer or nutlock 18; and fitted to the end of the screw 16 and adapted to be screwed into engagement with the nut 17, is a jam-nut 19.

Arranged between the rails 1 and 2, directly over the yoke frame 5, is a pair of wedge-shaped separating blocks 20 and 21, having opposing faces inclined with respect to the rails 1 and 2. The block 20 is fitted to the main rail 1 in a manner to engage the under side of the head, the inner face of the vertical web, and the top of the foot flange thereof, and the block 21 is fitted to the guard rail 2 in a manner to engage the under side of the head and inner side of the vertical web, and the top of the foot flange, as shown.

Formed in the central portion of the inclined face of the block 20 is a horizontal groove 22, into which extends a rib 23 projecting from the central portion of the inclined face of the block 21. The rib 23 is fitted to the groove 22, in a manner to permit relative adjustment between the blocks 20 and 21, longitudinally of the rails 1 and 2, and to engage the top and bottom of the groove 22 in a manner to prevent relative vertical movement between the blocks 20 and 21, and perforce the rails 1 and 2. Formed on the vertical face of the rib 23 is a series of projecting teeth 24, and formed in the

base or vertical wall of the groove 22 is a series of projecting teeth 25, corresponding with the teeth 24, the teeth 25 of the block 21 being so disposed as to enter between and engage the teeth 24 of the block 20 when the inclined faces of the blocks 20 and 21 are in engagement with each other. The teeth 24 and 25 thus serve to prevent relative movement between the blocks 20 and 21 longitudinally of the rails 1 and 2 when the inclined faces of the blocks are in engagement with each other. Thus it will be seen that by disengaging the teeth 24 from the teeth 25, the blocks 20 and 21 may be adjusted longitudinally of each other, and that the teeth 24 may be then reëngaged with the teeth 25. This adjustment is for the purpose of increasing the distance between the outer rail-engaging faces of the blocks 20 and 21, by moving the large end of the block 20 toward the large end of the block 21; or for the purpose of decreasing the distance between the outer parallel rail-engaging faces of the blocks by moving the small end of the block 20 toward the small end of the block 21, thus providing a separating means for the rails 1 and 2 which may be adjusted to vary the distance between the rails.

The block 21 is provided with a pair of downwardly extending projections, 26, which embrace and engage the top of the yoke-frame 5, for the purpose of preventing relative movement between the yoke-frame 5 and the blocks 20 and 21 longitudinally of the rails 1 and 2.

The operation of assembling the parts is as follows: The separating blocks 20 and 21 are adjusted longitudinally of each other, as just explained, to bring their outer parallel faces to a proper distance from each other to separate the guard rail 2 the required distance from the main rail 1. The inner faces of the rails 1 and 2 are engaged with the outer faces of the blocks 20 and 21, and the yoke-frame 5 is engaged with the foot flange of the main rail 1, and brought into the position shown in the drawings. This being done, the block or member 11 is placed into engagement with the outer face of the guard rail 2, with its arm 15 against the side of the yoke-frame 5; the wedge 9 is then placed within the groove 12 of the block 11, between said block and the beveled end 7 of the yoke frame 5, the screw 16 projecting from the wedge extending from the opening in the arm 15. The split washer 18 is then applied to the end of the screw 16, and nut, 17, is screwed hard thereon, thus drawing the wedge tightly between the end 7 of the yoke frame 5 and the block 11 engaging the outer face of the guard rail 2, the arm 15 engaging the yoke frame 5 and preventing movement between said arm and frame during the tightening of the nut 17. Thus it will be seen that the tightening of the nut 17 draws the wedge 9 between the end 7 of the yoke-frame 5 and the block 11, thus causing the block 11 to force the guard rail 2 toward the main rail and the end 6 of the frame 5, to force the main rail 1 toward the guard rail 2 and firmly clamp the parts including the separating blocks 20 and 21 which serve to separate the rails 1 and 2 the required distance. After the nut 17 has been tightened, the jam-nut 19 is screwed hard against the nut 17, thus serving in addition to the split washer 18 as a means to prevent the nut 17 from working loose.

Thus it will be seen that a guard rail clamp is provided that may be readily applied to the rails, adjusted into proper position, and firmly held in the clamped position.

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

1. The combination of the main rail; the guard rail adjacent thereto; a separating device interposed between said rails; a yoke-frame extending beneath said rails and having one of its ends engaged with one of said rails; a member engaging the other rail and provided with a projection forming an abutment engaging one side of said yoke-frame and provided also with a part engaged with and supporting the yoke-frame; a wedge interposed between said member and said yoke-frame; and means for holding said wedge in place, said member being movable with respect to the yoke-frame longitudinally of the rails when said wedge is not in engagement therewith.

2. The combination of the main rail; the guard rail adjacent thereto; a separating device interposed between said rails; a yoke-frame extending beneath said rails and having one of its ends engaged with one of said rails; a member engaging the other rail and provided with a projection forming an abutment engaging one side of said yoke-frame and provided also with a part engaged with and supporting the yoke-frame; a wedge interposed between said member and said yoke-frame; said member being movable with respect to the yoke-frame longitudinally of the rails when said wedge is not in engagement therewith; and a screw adjustment for said wedge connecting the wedge with said projection.

3. The combination of the main rail; the guard rail adjacent thereto; a separating device interposed between said rails; a yoke-frame extending beneath said rails and having one of its ends engaged with one of said rails; a member engaging the other rail and provided with a projection extending outwardly from the member away from the yoke-frame and then toward and into engagement with the yoke-frame and providing a space between the projection and the body of the member; a wedge interposed be-

tween said member and said yoke-frame in line with said space; and means for adjusting said wedge.

4. The combination of the main rail; the guard rail adjacent thereto; a separating device interposed between said rails; a yoke-frame extending beneath said rails and having one of its ends engaged with one of said rails; a member engaging the other rail and provided with a projection extending outwardly from the member away from the yoke-frame and then toward and into engagement with the yoke-frame and providing a space between the projection and the body of the member; a wedge interposed between said member and said yoke frame in line with said space; and a screw adjustment for said wedge extending through said space and connecting the wedge with said projection.

In testimony whereof, we have hereunto affixed our signatures.

CHARLES W. REINOEHL.
WILLIAM M. HENDERSON.

Witnesses:
THOMAS F. MILLER,
WM. R. MILLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

Correction in Letters Patent No. 987,400

It is hereby certified that in Letters Patent No. 987,400, granted March 21, 1911, upon the application of Charles W. Reinoehl, of Steelton, and William M. Henderson, of High Spire, Pennsylvania, for an improvement in "Guard-Rail Clamps," an error appears requiring correction as follows: In the grant and in the heading to the printed specification Helen B. Reinoehl is erroneously described as "Administratrix of said Charles W. Reinoehl, deceased," whereas she should have been described as *Executrix* of said Reinoehl; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 13th day of June, A. D. 1911.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.