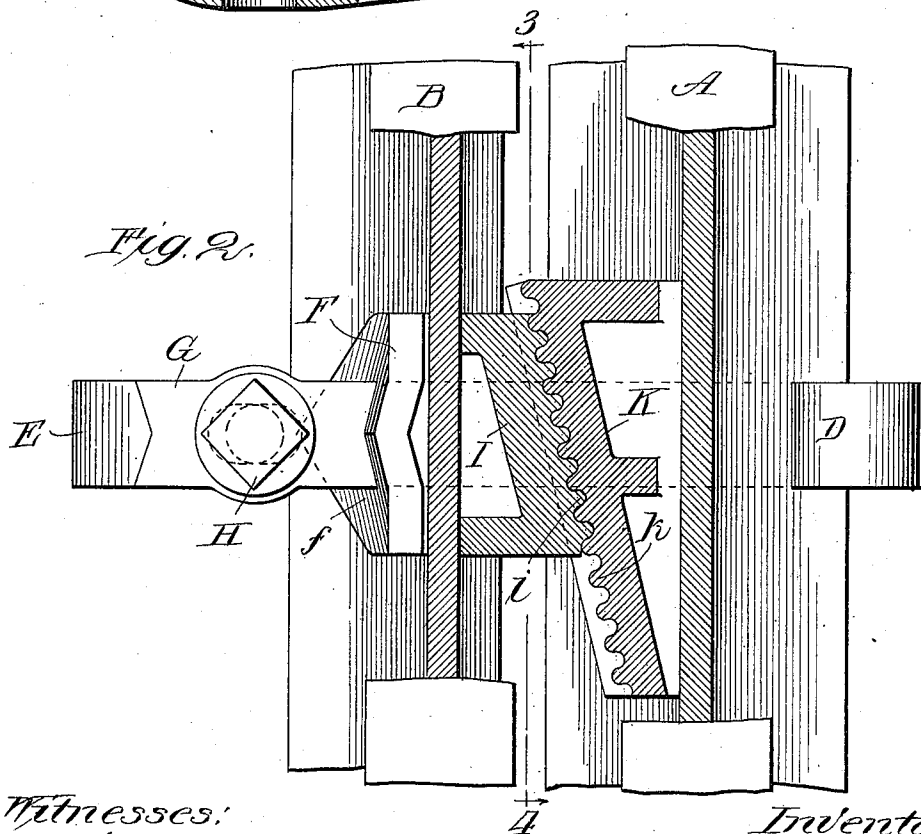
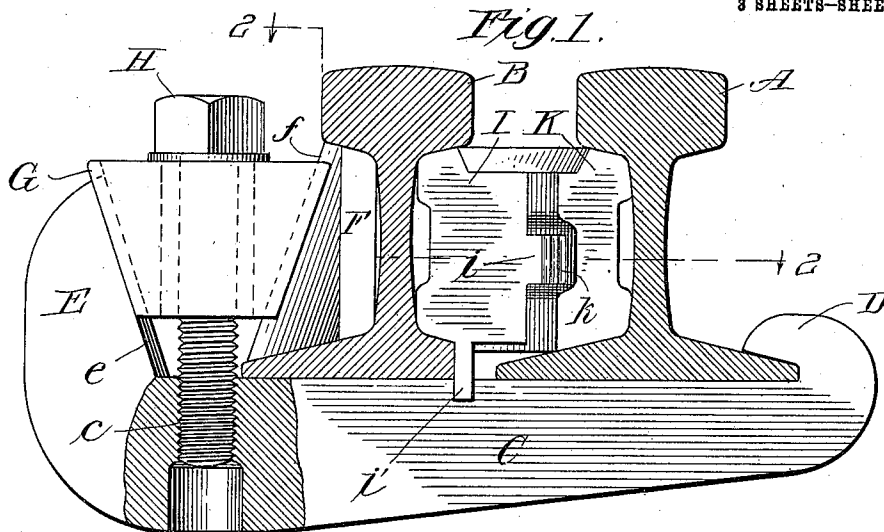


M. BURPEE.
 GUARD RAIL CLAMP.
 APPLICATION FILED JUNE 6, 1910.

975,395.

Patented Nov. 15, 1910.

3 SHEETS-SHEET 1.



Witnesses:

Harry S. Gaither
 Ruby V. Bydges.

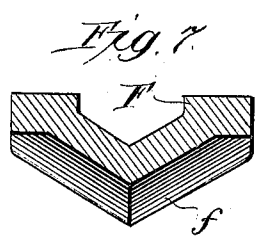
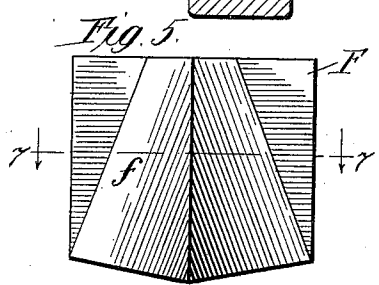
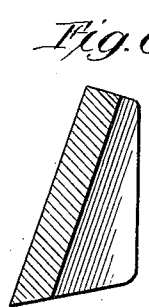
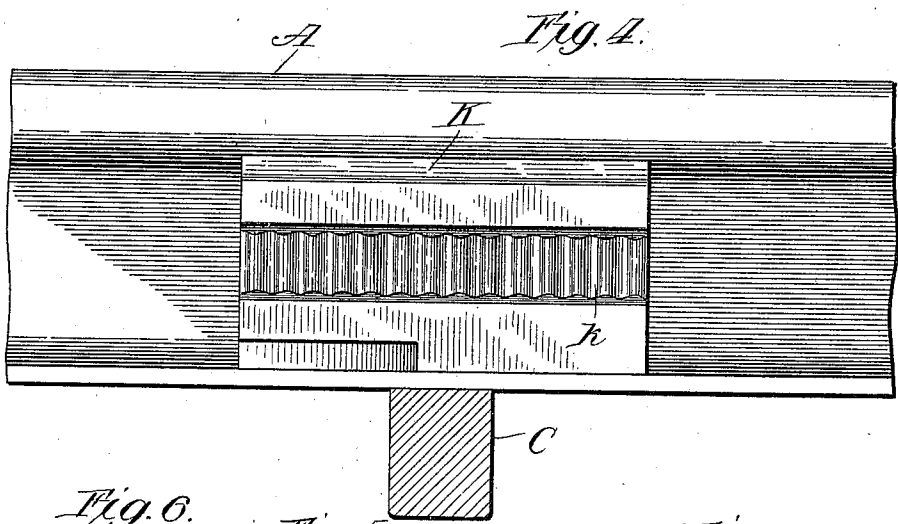
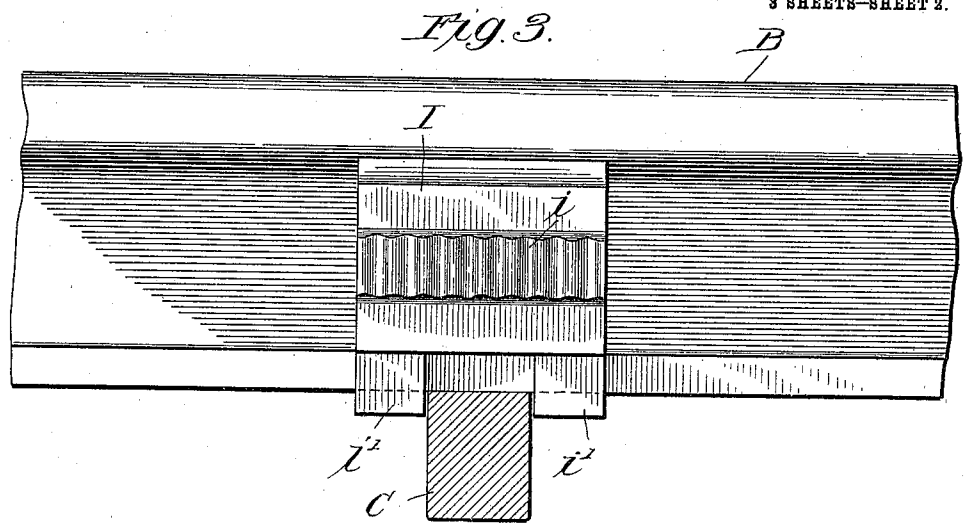
Inventor:

Moses Burpee,
 by Chamberlin & Freudenreich
 attys

M. BURPEE.
 GUARD RAIL CLAMP.
 APPLICATION FILED JUNE 6, 1910.

975,395.

Patented Nov. 15, 1910.
 3 SHEETS—SHEET 2.



Witnesses:
Harry S. Gaither
Ruby V. Brydges.

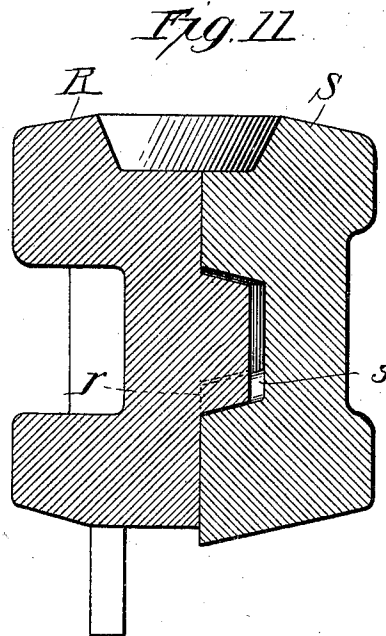
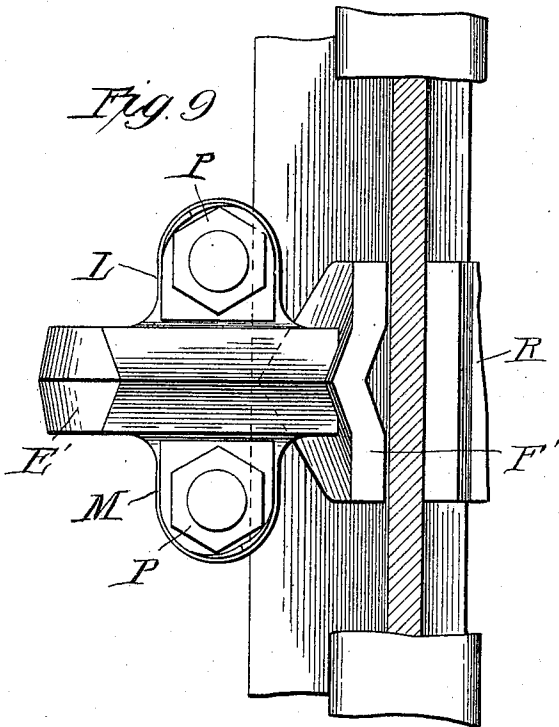
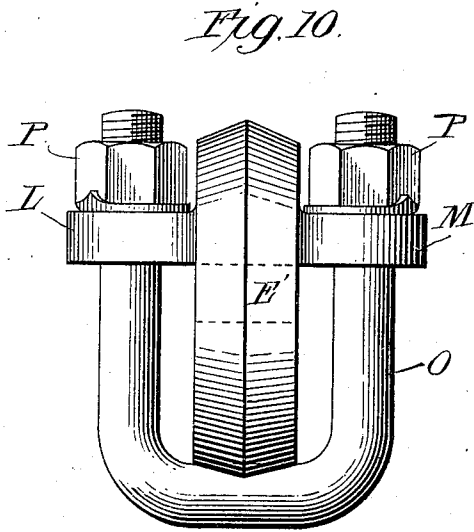
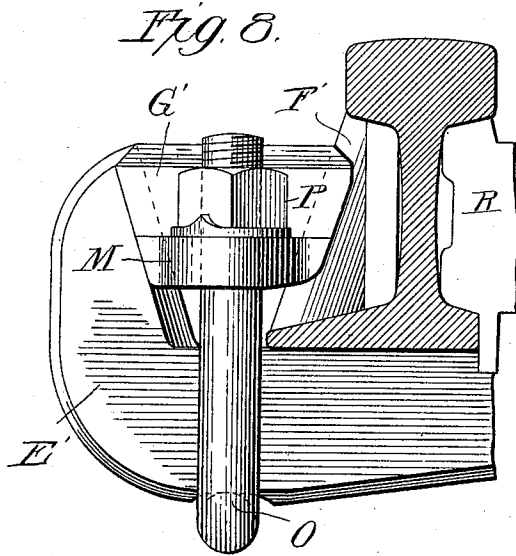
Inventor:
Moses Burpee,
 by *Chamberlin & Freudenreich*
attys

M. BURPEE.
 GUARD RAIL CLAMP.
 APPLICATION FILED JUNE 6, 1910.

975,395.

Patented Nov. 15, 1910.

3 SHEETS—SHEET 3.



Witnesses:
Harry S. Gaither
Ruby V. Bridges

Inventor:
Moses Burpee.
 By *Chamberlain & Townsend*
attys

UNITED STATES PATENT OFFICE.

MOSES BURPEE, OF HOULTON, MAINE.

GUARD-RAIL CLAMP.

975,395.

Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed June 6, 1910. Serial No. 565,297.

To all whom it may concern:

Be it known that I, MOSES BURPEE, a subject of the King of England, and a citizen of Canada, residing at Houlton, county of Aroostook, State of Maine, have invented a certain new and useful Improvement in Guard-Rail Clamps, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object to provide a simple, durable and efficient device for securing together two rails such as a traffic rail and a guard rail associated therewith.

My invention embodies some of the principles of the device disclosed and claimed in my Patent No. 943,138 and, in one of its aspects, my invention may be regarded as comprising an improvement thereon.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawings, wherein:

Figure 1 is a transverse section taken through a guard rail and a traffic rail, showing a clamping device arranged in accordance with a preferred form of my invention; Fig. 2 is a section on line 2—2 of Fig. 1; Fig. 3 is a section taken on line 3—4 of Fig. 2 looking toward the left; Fig. 4 is a view similar to Fig. 3, looking toward the right; Fig. 5 is a side view of the brace for the guard rail; Fig. 6 is a central longitudinal section through Fig. 5; Fig. 7 is a section on line 7—7 of Fig. 5; Figs. 8 and 9 are views similar to the left hand portion of Figs. 1 and 2 illustrating a modification; Fig. 10 is a view looking toward the right in Fig. 8, the guard rail and the brace being omitted; and Fig. 11 is a sectional view on an enlarged scale showing a modified form of spacing block.

Referring to the first seven figures of the drawings: A represents a traffic rail and B a guard rail. C is a yoke lying beneath and engaging with the bases of both rails. At one end of the yoke is a hook D which overlies the upper surface of the base of the traffic rail and, in connection with the other

parts to be hereinafter described, prevents the guard rail from moving in the vertical direction or away from the traffic rail. At the opposite end of the yoke is an upwardly inclined projection or abutment E. Between the two rails is a suitable spacing block which is preferably, though not necessarily, made adjustable so as to make it possible to vary the distance between the two rails. On the side of the guard rail farthest away from the traffic rail is a block or brace F which fits between the head and base of the rail and has an inclined back *f* which tapers in the opposite direction from the inclined face *e* on the abutment or projection E. G is a wedge block shaped so as to fit between the inclined surfaces on the members E and F. It will be seen that by placing the brace F in the plane of the yoke, dropping the wedge block G in position, and then drawing the latter downwardly, a relative transverse movement will be produced between the members E and F and, because the member E is rigidly interlocked with the traffic rail, the parts between the wedge block and the hook D will be pressed together until they present a solid abutment and prevent further downward movement of the wedge block. At the same time all of the parts will be tied together into a single rigid structure since the spacing block and the brace can be shaped to fit the rails snugly, without danger of being displaced during the tightening operation. In the preferred arrangement the wedge block is adjusted and locked by means of a single bolt H which extends through the block and into a screw-threaded opening *c* in the yoke. I prefer so to proportion the parts that the lower end of the bolt will not project beyond the bottom of the yoke when the wedge block has been drawn downwardly as far as it can go under any conditions of service; thereby shielding the end of the bolt and preventing it from becoming injured through contact with external objects. The wedge faces of the members E and F are preferably made convex so that these members will interlock with the wedge block, as seen most clearly in Fig. 2 and prevent lateral displacement of the parts.

As previously stated, I prefer to make the spacing block adjustable, the preferred arrangement consisting of two wedge-shaped members I and K suitably cored out so as to give them lightness and strength. The mem-

ber I is provided with a longitudinal rib or tongue having teeth i on its outer edge. The member K is provided with a complementary groove adapted to receive the rib and having complementary teeth k at the bottom thereof. It will be seen that by shifting the two members relative to each other in the longitudinal direction, their aggregate width is varied. In assembling the parts the two wedge members are interlocked with each other in such relative longitudinal positions that they form a spacer of the desired width. When the side of the guard rail has become worn to such a degree as to increase the space between it and the traffic rail to an unsafe or inconvenient distance, the bolt H is unscrewed sufficiently to permit the rails to be separated far enough to permit the teeth on the two members of the spacing block to become disengaged; the relative longitudinal positions of the spacing block member are then adjusted so as to make the total width of the block narrower than before; and the bolt H is again tightened, drawing the wedge member G farther toward the lower member of the yoke than before and forcing the guard rail toward the traffic rail until further movement is prevented by the spacing block. One of the members of the spacing block may remain fixed longitudinally of the rails since it is sufficient to shift one of the members only. In the arrangement shown, the member I is provided with downwardly projecting lugs i' spaced apart far enough to receive between them the transverse member of the yoke. These lugs prevent the member I from shifting longitudinally of the rails and, because of the interlocking teeth between the two members of the spacing block, the spacing block as a whole is locked against endwise movement. It will furthermore be seen that by providing the tongue and grooved connection between the two members of the spacing block, relative movements in the vertical direction are prevented. It will be seen that when the spacing block is in position it acts in the same way as a member made of a single piece.

When a train is passing over the traffic rail there is a lateral thrust against the head of the guard rail and a tendency to tilt the guard rail about the outer lower corner. This tendency is of course resisted by the brace F and also by the load upon the traffic rail for the reason that a tilting action on the part of the guard rail produces an upward thrust beneath the head of the traffic rail, such upward thrust being resisted by the weight of the load. The lateral component of the thrust upon the traffic rail is therefore negligible and a brace upon the outside of the traffic rail is unnecessary.

In Figs. 8 to 10 I have shown a modified arrangement for tightening the wedge block.

In these figures the members E' and F' may be the same as the members E and F in the first form. The wedge block G' is provided with laterally projecting wings L and M. O is a U-shaped bolt underlying the yoke and having its arms passing through the wings of the wedge block. P, P are nuts screw-threaded upon the member O and engaging with the upper surfaces of the wings. It will be seen that by tightening these nuts the wedge block is drawn downwardly toward the yoke just as in the other form.

While the arrangement just described is a good one, I prefer the first form because it is simpler, gives a smoother finish and leaves no projecting bolt ends to engage the feet of employees passing along the track. Furthermore, in the first form there is no danger of injuring the threads as there is in the second form.

In Fig. 11 I have shown a somewhat different form of spacing block comprising members R and S similar to the members I and K except that the interlocking teeth r are on the bottom of the tongue or rib and the cooperating teeth s are in the lower side of the groove or slot.

While I have illustrated and described with particularity only a single form of my invention I do not desire to be limited to the specific details so illustrated and described; but intend covering all constructions and arrangements which fall within the terms employed in the definitions of my invention constituting the appended claims.

What I claim is:

1. In combination, a traffic rail and a guard rail, a base member underlying said rails, a jaw on said member overlying the base of the traffic rail, an upwardly and outwardly inclined projection on said member adjacent to the outer side of the guard rail, a spacing block between the rails, a rail brace engaging with the outer side of the guard rail and having an outwardly and downwardly inclined face, a wedge block lying between said inclined projection and the inclined face on said brace, and means for forcing said wedge block downwardly along said projection and said brace.

2. In combination, a traffic rail and a guard rail, a base member underlying said rails, said base member having a jaw overlying the base of the traffic rail, an abutment on said member adjacent to the outer side of the guard rail, a spacing block between the rails, a rail brace fitting under the head of the guard rail at the outer side thereof, the adjacent faces of said brace and of said abutment both being inclined and converging toward their lower ends, a wedge block engaging said faces, and means for drawing said wedge block downwardly along said faces.

3. In combination, a traffic rail and a

guard rail, a base member underlying said rails, a jaw on said member overlying the base of the traffic rail, an upwardly extending abutment on said member at the outer side of the guard rail, a spacing block between the rails, a brace arranged under the head of the guard rail at the outer side thereof, the adjacent faces of said brace and of said abutment both being inclined and converging toward their lower ends, a wedge block engaging with said faces, and an adjustable connection between said member and said wedge block.

4. In combination, a traffic rail and a guard rail, a base member underlying said rails, a jaw on said member overlying the base of the traffic rail, an upwardly extending abutment on said member at the outer side of the guard rail, a spacing block between the rails, a brace arranged under the head of the guard rail at the outer side thereof, the adjacent faces of said brace and of said abutment both being inclined and converging toward their lower ends, a wedge block engaging with said faces, and a bolt connecting said wedge block with said member for drawing the wedge block along said faces.

5. In combination, a traffic rail and a guard rail, a base member underlying said rails, a jaw on said member overlying the base of the traffic rail, an upwardly extending abutment on said member at the outer side of the guard rail, a spacing block between the rails, a brace arranged under the head of the guard rail at the outer side thereof, the adjacent faces of said brace and of said abutment both being inclined and converging toward their lower ends, a wedge block engaging with said faces, and an adjustable connection between said member and said wedge block, said wedge block being interlocked with said brace and said abutment to prevent displacement longitudinally of the rails.

6. In combination, a traffic rail and a guard rail, a base member underlying said rails and engaging with the bases thereof, a jaw integral with said base member and overlying the base of the traffic rail, an abutment integral with said member projecting upwardly at the outer side of the guard rail, a spacing block between the rails, a rail brace fitting between the head and the base of the guard rail on the outer side thereof, the adjacent faces of said brace and of said abutment both being inclined and converging toward their lower ends, a wedge block engaging with said faces, and an adjustable connection between said member and said wedge block.

7. In a guard rail clamp, a spacing block composed of two wedge-shaped members, one of said members having a tongue extending longitudinally thereof and the other having a longitudinal groove for receiving said tongue, said tongue having teeth on its outer edge and said groove having cooperating teeth in the bottom thereof, the teeth on the tongue being of less depth than the tongue and said groove being at least as deep as the tongue.

8. In combination, a traffic rail, a base member underlying said rails, a jaw on said member overlying the base of the traffic rail, said member having an upwardly extending projection adjacent to the outer side of the guard rail, a spacing block between the rails, a rail brace engaging with the outer side of the guard rail, a wedge block lying between said projection and said brace, a bolt passing through said wedge block and engaging with the screw-threaded socket in said base member.

In testimony whereof, I sign this specification in the presence of two witnesses.

MOSES BURPEE.

Witnesses:

E. C. ALEXANDER,
E. R. LOGIE.