J. A. BODKIN.

GUARD RAIL CLAMP.

APPLICATION FILED MAY 27, 1911.

1,040,611. Patented Oct. 8, 1912.

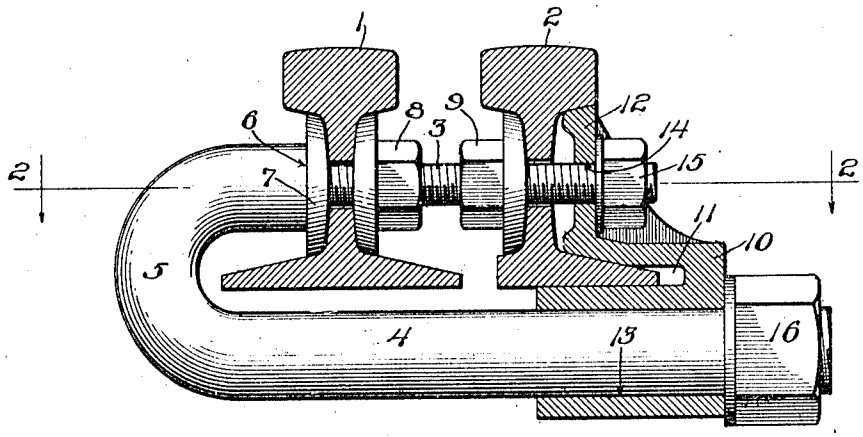

Fig. 1.

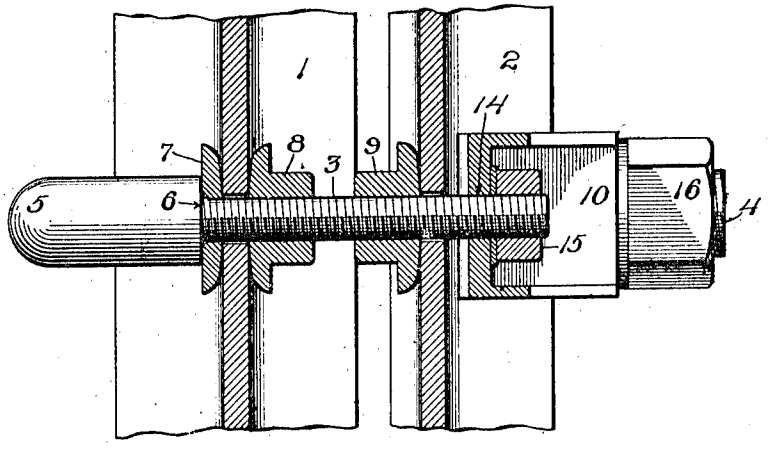

Fig. 2.

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UNITED STATES PATENT OFFICE.

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GUARD-RAIL CLAMP.

1,040,611. Specification of Letters Patent. Patented Oct. 8, 1912.

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To all whom it may concern:

Be it known that I, JOHN A. BODKIN, a citizen of the United States, residing at New York city, county of New York, State of New York, 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 produce a simple and effective clamp for firmly tying a guard rail to a traffic rail.

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 object and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawings, wherein:

Figure 1 is a cross-section through a traffic rail and a guard rail connected together by means of a clamp arranged in accordance with a preferred form of my invention; and Fig. 2 is a section approximately on line 2—2 of Fig. 1.

Referring to the drawing, 1 represents a traffic rail and 2 a guard rail. In accordance with my invention I make use of a heavy U-shaped bolt having one arm reduced as indicated at 3 so as to permit it to pass through the webs of the rails without making the openings through the rails too large, and having its other arm, 4, extending underneath the bases of the rails. In the preferred arrangement the bolt is so placed that its yoke 5 lies on the outside of the traffic rail while the free ends of the arms project beyond the farther side of the guard rail. The reduction of the diameter in the upper arm of the bolt produces an annular shoulder 6 which may either bear directly against the web of the traffic rail or may engage with a washer 7 which is interposed between it and the rail. The member 3 is preferably screw-threaded throughout the major portion of its length for the reception of suitable nuts or abutments by which the rails are rigidly held at the desired distance apart. In the preferred arrangement there are two abutments, 8 and 9, which are adapted to lie between the two rails and engage with the traffic rail and the guard rail, respectively, when the clamp is assembled in operative relation to the rails. Upon the free ends of the arms of the bolt is secured a bracket or brace 10 having a jaw 11 for embracing the base flange of the guard rail on one side of the guard rail and having an upright portion 12 adapted to fit between the head and the base flange of the guard rail. The bracket or brace is provided with an opening 13 for the passage of the arm 4 of the bolt, and a second opening 14 for the passage of the member 3 of the bolt. The bracket or brace is held in place, and the whole is rigidly tied together, by means of nuts 15 and 16 arranged respectively on the free end of the member 3 and on the free end of the member 4.

When the clamp is to be placed in position, the nuts 15 and 16 and the abutments 8 and 9 are unscrewed from the arms of the bolt, the upper arm is inserted through the web of the traffic rail and the abutment 8 is applied. The abutment 9 is then screwed in place before the upper arm is inserted through the opening in the guard rail. The abutment 8, coöperating with the shoulder 6 and the washer 7, clamps the bolt firmly to the traffic rail. The abutment 9 is adjusted longitudinally of the bolt so as to produce the proper distance between the two rails when the guard rail is held against the abutment. The bracket or brace is then slipped upon the free ends of the arms of the bolts and the nuts 15 and 16 are applied. This serves to clamp the guard rail firmly to the upper arm of the bolt and places the yoke and the lower arm of the bolt under tension so as to make the guard rail unyielding under the pressures to which it is subjected in operation. If desired, any usual spacing device may be employed instead of the members 8 and 9.

While I have illustrated and described only a single preferred form of my invention, I do not desire to be limited to the particular structural details thus illustrated and described; but intend to cover all forms and arrangements which fall within the terms employed in the definitions of my invention constituting the appended claims.

I claim:

1. In a guard rail clamp, a U-shaped member having one arm adapted to pass through the webs of a traffic rail and a guard rail and having its other arm adapted to pass beneath the bases of said rails.

2. In a guard rail clamp, a U-shaped member having one arm adapted to pass through the webs of a traffic rail and a guard rail, the aforesaid arm being screw-threaded throughout substantially its entire length, and the other arm of said member having screw-threads at its free end.

3. In a guard rail clamp, a U-shaped member having screw threads on both of its arms, one of said arms being long enough to pass through the webs of a traffic rail and a guard rail, and the other arm being long enough to extend across the bases of both rails.

4. In a guard rail clamp, a U-shaped member having one arm adapted to pass through the webs of a traffic rail and a guard rail and having its other arm adapted to pass beneath the bases of said rails, and relatively adjustable abutments on the first mentioned arm for engaging with the sides of the webs of the rails, some of said abutments being detachable.

5. In a guard rail clamp, a U-shaped member having one arm adapted to pass through the webs of a traffic rail and a guard rail, the aforesaid arm being screw-threaded throughout substantially its entire length, the other arm of said member having screw-threads at its free end, and a series of rail-engaging abutments screw threaded on the arm which is adapted to pass through the webs of the rails.

6. In combination, a guard rail and a traffic rail, a U-shaped clamp member having one arm passing through the webs of said rails and the other arm passing beneath the bases of the rails, a bracket secured upon the free ends of said arms and engaging with the side of the adjacent rail, and means on the arm which passes through the webs of the rails for engaging with the sides of the rail webs.

7. In combination, a guard rail and a traffic rail, a U-shaped clamp member having one arm passing through the webs of said rails and the other arm passing beneath the bases of the rails, and relatively adjustable devices on said arms engaging with the sides of said rails.

8. In combination, a guard rail and a traffic rail, a U-shaped clamp member having one arm passing through the webs of said rails and the other arm passing beneath the bases of the rails, a bracket adjustably mounted on the free ends of said arms for engaging the side of one of said rails, and detachable clamping devices mounted on the arm which passes through the webs of the rails for engaging with the sides of the rail webs.

9. In combination, a traffic rail and a guard rail, a U-bolt having one arm passing through the webs of the rails and the other arm passing beneath the bases of the rails, a bracket secured upon the free ends of said arms and shaped to embrace one side of the base flange of one of the rails and engage with the web of that rail, and abutments screw-threaded upon the upper arm of the bolt between the rails and engaging with the sides of the rails.

10. In combination, a guard rail and a traffic rail, a U-shaped clamp member having one arm passing through the webs of said rails and the other arm passing under the bases of the rails, spacing means between the rails, and a rail-engaging member secured upon the free ends of the arms of said member.

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

JOHN A. BODKIN.

Witnesses:

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