W. BERRY.

RAIL CLAMP.

APPLICATION FILED NOV. 6, 1909.

957,838. Patented May 10, 1910.

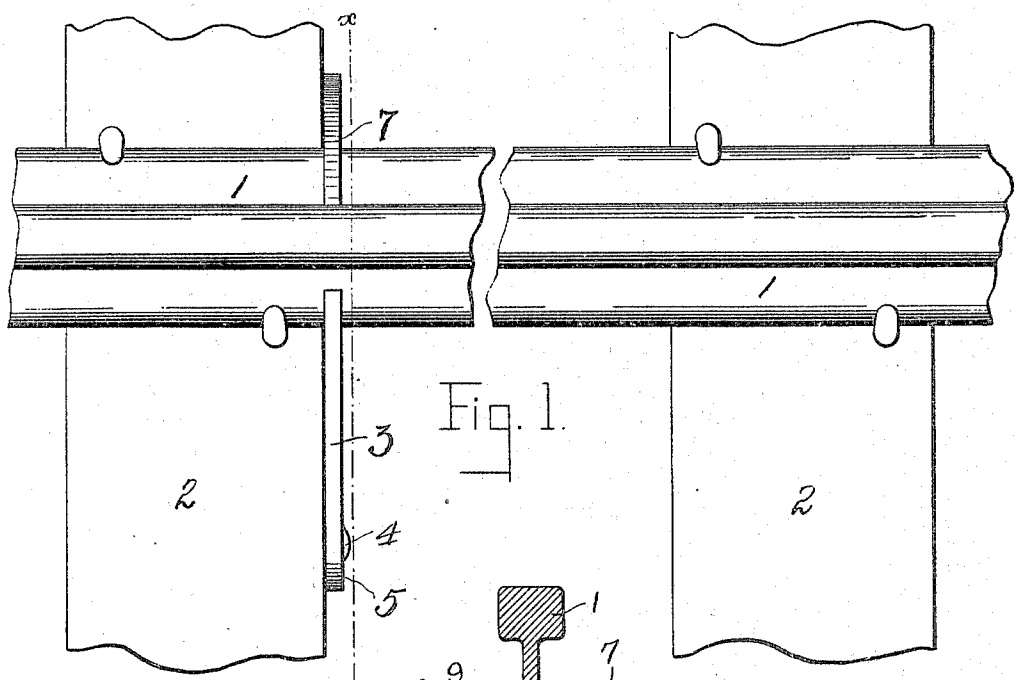


Fig. 1.

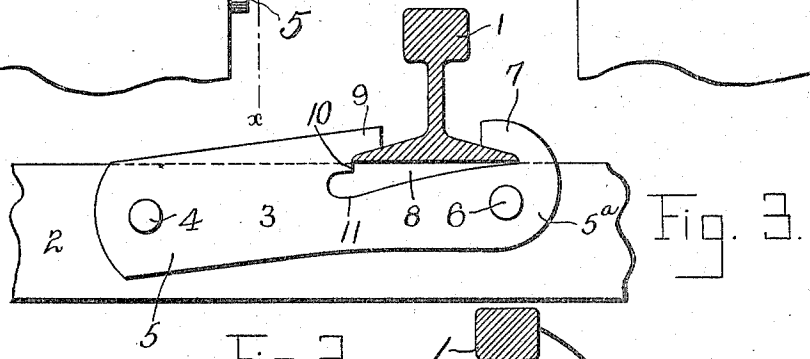
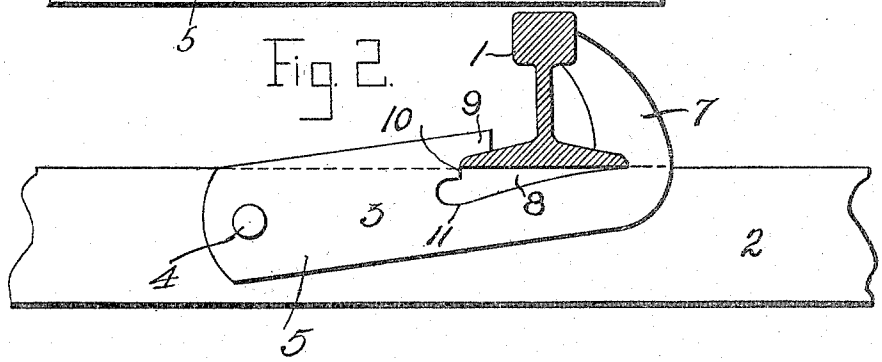


Fig. 3.

Fig. 2.



WITNESSES

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RAIL-CLAMP.

957,838. Specification of Letters Patent. Patented May 10, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM BERRY, a citizen of the United States, residing at Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful Improvements in Rail-Clamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to rail-clamps of the class which do not take the place of the ordinary spikes for securing the rails to the ties, but merely serve as safety devices to prevent the rails from tipping, spreading or creeping.

The principal object of the invention is to provide a simple construction of clamp of this kind which can be cheaply manufactured, is durable and may be readily and quickly applied to the rails and secured to the ties.

Other objects of the invention will become apparent from the following description.

The invention consists principally of a clamp made in one piece of rigid or non-yielding metal so constructed that it can be applied to a rail between two adjacent ties without disconnecting said rail from either tie. When the clamp is secured to one of the ties, it holds the rail firmly in place without the use of bolts or other adjustable devices, thereby dispensing with all separable parts, which have been heretofore used, and which are liable to become loose or disconnected and lost.

The invention also consists in the features of construction and combinations of parts hereinafter described and specified in the claims.

In the accompanying drawing illustrating the preferred embodiment of my invention: Figure 1 is a plan view of parts of two ties and one rail showing one of my improved rail clamps as applied in use, Fig. 2 is a sectional view on the line x—x of Fig. 1, and Fig. 3 is a similar view of a modified construction.

Referring more particularly to the drawing, 1 designates the rail, 2 the ties and 3 my improved rail clamp. The latter is secured to the adjacent tie by means of a bolt 4 passed through the inwardly and downwardly extending portion 5 of the clamp. The other end of said clamp may be widened, as illustrated at 5^a in Fig. 3, to provide for employing another securing bolt 6, if it is found necessary or desirable. The outer end of the clamp is hook-shaped, as at 7, so as to grip the foot of the rail at the top and bottom and also support the tread of the rail from the outside. This reinforcement of the tread of the rail prevents said rail from tipping under lateral strain, as is exerted by heavy trains in rounding curves. On straight portions of track, this upwardly extending brace for supporting the tread of the rail may be dispensed with and the hooked end 7 shortened, as illustrated in Fig. 3. This shortening of the hooked portion does not reduce its effectiveness for holding the foot of the rail. An opening 8 is formed between the hooked-shaped portion of the clamp and an oppositely extending overhanging portion 9 below which said opening is wider than at the hooked end of the clamp. In fact, the base of the opening 8 is inclined, as clearly illustrated in Fig. 2, when the clamp is in operative position, said inclined base extending from its highest point which is directly below the outer edge of the foot of the rail to its lowest point which is arranged a short distance inward of the inner edge of the foot of the rail. At the inner extremity of said opening, there is formed a step 10, the vertical portion of which is spaced away from the crotch in the hooked end a distance equal to the width of the foot of the rail.

The under cut portion below the step 10 is necessary in order to place the clamp on to the rail which is done by first engaging the inner edge of the rail base or foot with said undercut portion, then bringing the outer portion of the base of the opening up against the outer edge of the rail foot, whereupon the clamp may be moved inward until the outer edge of the foot of the rail engages the crotch in the hooked end of said clamp. When this is accomplished, the inner edge of the rail base is free from the undercut portion of the opening so that the inner end of the clamp may be depressed to bring the overhanging nose 9 into engagement with the upper face of the inner edge of the base of the rail and the brace extending from the hooked portion of said clamp into engagement with the outer portion of the tread of the rail. The base of the opening 8 is preferably made straight except that it is hol-

lowed out slightly, as at 11, near the overhanging portion 10, which is necessary in order to make the upper extremity of the hooked-portion or brace clear the outer edge of the rail base after the clamp has been slipped on to the inner edge of said rail base in the first operation of connecting the clamp to the rail.

It will be observed that the outer end of the base of the inclined opening 8 engages the bottom of the rail-foot so that the clamp not only exerts a downward pressure on the inner edge of said rail-foot but also supports its outer edge. This construction combined with the lever action of the inward extension 5, which is secured near its extremity to the side of the tie, tends to effectually prevent the rail from tipping ouwardly, as it has a tendency to do under the strain to which it is subjected by passing trains. The single bolt 4 connecting the clamp to the tie, as illustrated in Figs. 1 and 2, makes this connection pivotal whereby the clamp is given free action with the result that it will not be pounded into the tie and will support the rail in proper position even should the portion of the tie below the outer edge of the rail- foot wear away.

I claim:

1. An integral rigid rail clamp of the character described, having a hooked portion adapted to engage the outer edge of the foot of a rail, an oppositely extending nose adapted to engage the inner edge of the rail-foot, an opening inclined downwardly and inwardly from below said hooked portion to below said nose, the outer end of the base of said opening engaging the bottom of the rail foot, and an extension projecting laterally of the rail and means to fasten said extension to the side of a tie in position where the outer edge of the rail-foot is supported and the inner edge thereof held down upon the tie by a lever action.

2. An integral rigid rail clamp of the character described, having a hooked portion adapted to engage the outer edge of the foot of a rail, an oppositely extending nose adapted to engage the inner edge of the rail-foot, an opening inclined downwardly and inwardly from below said hooked portion to below said nose, the outer end of the base of said opening engaging the bottom of the rail-foot, an upward extension on said hooked portion adapted to engage the outer edge of the tread of the rail, and an extension projecting laterally of the rail and means to fasten said extension to the side of a tie in position where the outer edge of the rail-foot is supported and the inner edge thereof held down upon the tie by a lever action.

3. An integral rigid rail clamp of the character described, having a hooked portion adapted to engage the outer edge of a foot of a rail, an oppositely extending nose adapted to engage the inner edge of the rail-foot, an opening inclined downward and inward from below said hooked portion to below said nose, the outer end of the base of said opening engaging the bottom of the rail-foot, a stepped portion at the inner lower extremity of said opening leaving a cut-out portion constituting an extension of said opening whereby sufficient clearance to admit the rail-foot is provided, and an extension projecting laterally of the rail and means to fasten said extension to the side of a tie in position where the outer edge of the rail-foot is supported and the inner edge thereof held down upon the tie by a lever action.

In testimony whereof, I affix my signature, in presence of two witnesses.

WILLIAM BERRY.

Witnesses:
W. B. LAMB,
F. C. EBERRIAN.