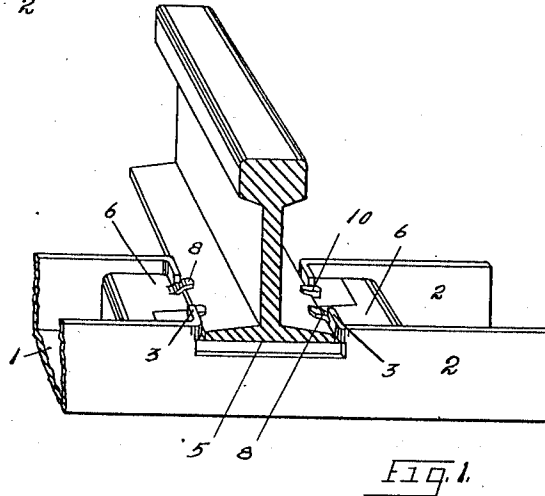
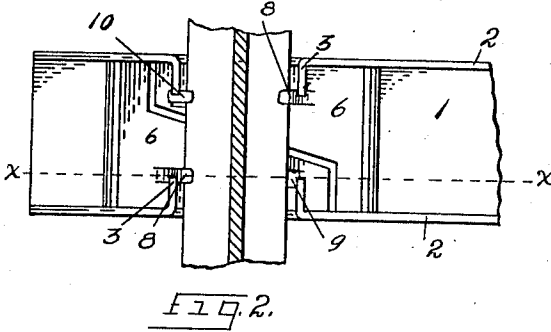
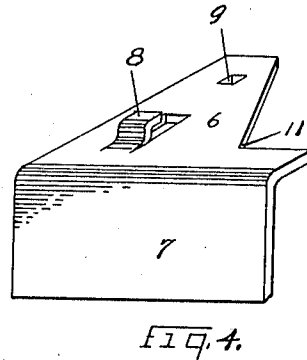
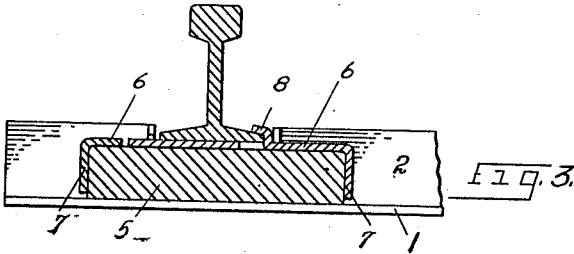
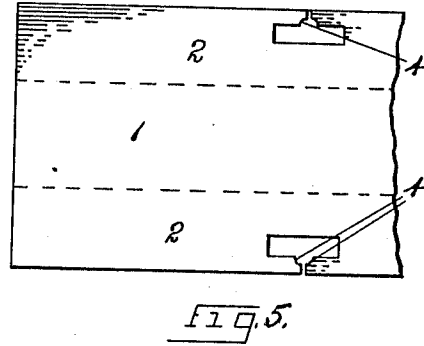
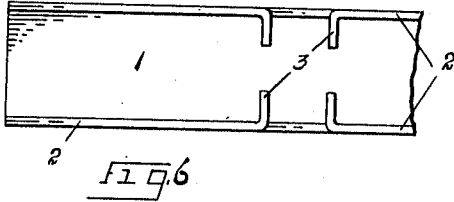


A. C. CANDLAND.
RAIL FASTENER.
APPLICATION FILED JULY 1, 1912.

1,048,651.

Patented Dec. 31, 1912.



Witnesses:

F. W. Thomas.
Sam Roney

Arthur C. Candland Inventor.

by *J. M. Thomas*
Attorney

UNITED STATES PATENT OFFICE.

ARTHUR C. CANDLAND, OF PROVO, UTAH.

RAIL-FASTENER.

1,048,651.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Application filed July 1, 1912. Serial No. 707,116.

To all whom it may concern:

Be it known that I, ARTHUR C. CANDLAND, a citizen of the United States, residing at Provo city, in the county of Utah and State of Utah, have invented certain new and useful Improvements in Rail-Fasteners, of which the following is a specification.

My invention relates to rail fastening devices, and has for its object to provide means for fastening railway rails securely on a metallic tie, and to provide a fastener which consists of few parts and one that is easily placed in position and a portion of which forms a rail plate. These objects I accomplish with the device illustrated in the accompanying drawings in which similar letters of reference indicate like parts throughout the several figures and as described in the specifications forming a part of this application, and pointed out in the appended claims.

Figure 1 is a view in perspective of a portion of a rail secured on one end of a tie with my device. Fig. 2 is a plan view of the same with one of the rail plates in place and the other only partially so. Fig. 3 is a vertical section longitudinally through the tie and fastening means on line *x x* of Fig. 2. Fig. 4 is a view in perspective of one of the rail plates. Fig. 5 is a plan view of one end portion of a channel tie as cut from a sheet of metal before it is bent into form. Fig. 6 is a plan view of the same after it is bent into form.

I am aware that others have used and patented means to secure a rail to a metallic channel shaped tie, but I have invented and show in the drawings, and herein describe a fastening device of few parts by which a rail may be secured on a metallic tie without providing openings or holes in said tie, and which may be used as a rail plate to prevent injury to or wear on the cushion blocks. In a metallic tie of channel shape having a bottom 1 and sides 2, I cut the said sides and bend them inwardly to form lugs 3. Each of said lugs has a corner 4 cut out to receive a portion of a rail plate and spike. Between said lugs 3 are placed blocks 5 made of wood or fibrous material to supply a cushion effect under the rail when placed thereon. Superimposed on each of said blocks 5 are rail plates 6, each having a portion 7 bent at practically right angles and downwardly extended. The said cushion

blocks 5 extend above the portions of said sides 2 of the tie, adjacent said lugs 3, to prevent the rail, when placed on said blocks and said rail plates, from contacting with the sides of the tie. The said portion 7 of each of said rail plates is extended downwardly to prevent said blocks from transverse displacement under the rail and to protect said blocks. Said rail plates 6 each has a portion 8 cut and struck upwardly therefrom and bent to grip the base flange of a rail placed thereon; and also has a hole 9 formed therein to receive a spike 10 when driven therethrough. Each of said rail plates has a portion of one side cut out as at 11 to receive the uncut portion of the opposed rail plate. Insulating material may be placed between said rail plates 6 and the base flange of the rail, if so desired.

In the use of my device, the cushion blocks 5 are placed adjacent said lugs 3 and the rail plates 6 are placed on said blocks with enough space between the said lug 8 of one of said rail plates and the said lug 8 of the other rail plate to allow a rail to be placed on and supported by said rail plates. One of said rail plates 6 is then driven transversely under said rail until the lug 8 engages with the outer edge of the base flange of the rail. The cut out portion 4 of the said lugs 3 permits the lug 8 to pass below the lug 3 but is engaged thereby. A spike 10 is then driven through the opening 9 on the opposite side of the base flange of the rail in the same rail plate 6. The said hole 9 is cut sufficiently large to allow said spike 10 when driven into the cushion block 5, until the head of the spike engages the base flange of the rail, to be forced beneath the lug 3 adjacent. The other and opposed rail plate 6 is then driven transversely in the opposite direction beneath said rail until its lug 8 engages the base flange of the rail, and another spike 10 is then driven through the opening 9 in that rail plate and is bent under the point of the lug 3 adjacent, thus binding the rail in place on the rail plates by a lug 8 and spike 10 on one side and a similar lug 8 and spike 10 on the other side. The lugs not only hold the rail plates from upward or vertical displacement, but also prevents the unintentional withdrawal of the spikes 10. The depending portion 7 of said rail plates hold the blocks 5 from transverse displacement under the rail.

Having thus described my invention I desire to secure by Letters Patent and claim:

1. In combination with inwardly extended lugs integral with and bent from the sides of an upturned channel tie; cushion blocks adjacent said lugs adapted to support a railway rail; rail plates on said block and beneath said inwardly extended lugs, each provided with a spike hole therein; and lugs struck from said rail plates and bent to engage the base flange of a railway rail.
2. In combination with inwardly extended lugs integral with and bent from the sides of an upturned channel tie; cushion blocks adjacent said lugs and adapted to support a railway rail; rail plates superimposed on said cushion blocks beneath said inwardly extended lugs and each having an opening therethrough; a portion of each of said rail plates bent to engage one side of said blocks; and a lug on each of said rail plates integral therewith and struck from said rail plate and upwardly bent to engage the base flange of a rail.
3. In combination with inwardly extended lugs integral with and bent from the sides of an upturned channel tie; cushion blocks adjacent said lugs adapted to support a rail-

way rail placed thereon; a rail plate driven between said blocks and said rail and provided with a spike opening therein and contacting with the under edge of said inwardly extended lugs; a lug integral with said rail plate and bent to engage the base flange of said rail on one side; and a spike driven through said opening in said rail plate into said block to engage the said base flange on the opposite side from said lug.

4. A rail fastening device consisting of inwardly extended lugs on the sides of a channel tie, having a portion of the inner lower corner of each cut away; cushion blocks adjacent said lugs; rail plates superimposed on said blocks and contacting with the lower edge of said inwardly extended lugs, each having a spike hole in each; a lug integral with each of said rail plates and struck therefrom to engage the base flange of a rail; and a downwardly extended portion of each of said rail plates.

In testimony whereof I have affixed my signature in presence of two witnesses.

ARTHUR C. CANDLAND.

Witnesses:

W. R. WILLIAMS,
SAM RANEY.

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