A. C. CANDLAND.

RAIL FASTENER.

APPLICATION FILED SEPT. 3, 1912.

1,066,885. Patented July 8, 1913.

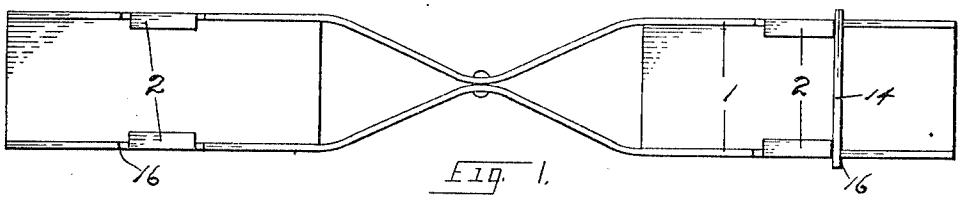


Fig. 1.

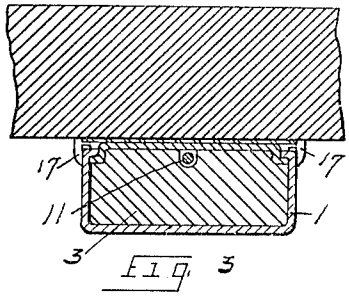


Fig. 3

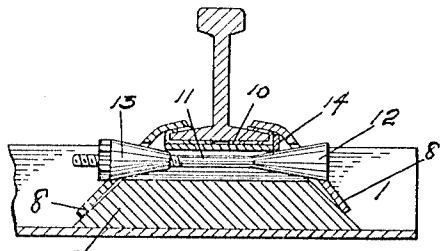


Fig. 2

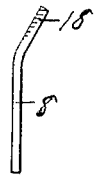


Fig. 5

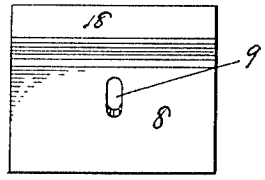


Fig. 4

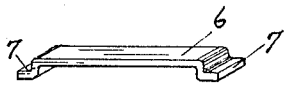


Fig. 6

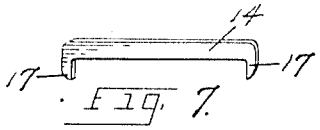


Fig. 7.

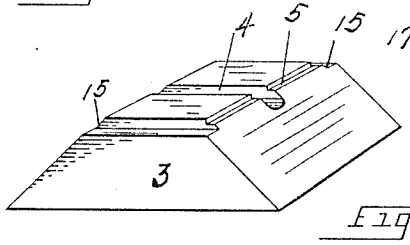


Fig. 8.

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UNITED STATES PATENT OFFICE.

ARTHUR C. CANDLAND, OF PROVO, UTAH.

RAIL-FASTENER.

1,066,885. Specification of Letters Patent. Patented July 8, 1913.

Application filed September 3, 1912. Serial No. 718,401.

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 but few parts and one that is easily placed in position and is adjustable to grip rails having different width base flanges. These and other objects which are apparent 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 specification forming a part of this application, and as pointed out in the appended claims.

Figure 1 is a plan view of a metallic tie with one of the liners in place thereon. Fig. 2 is a longitudinal vertical section through one end of a tie and a portion of a rail secured thereon with my fastener. Fig. 3 is a transverse vertical section through an end portion of a tie. Fig. 4 is an elevation of one of the rail clamps. Fig. 5 is an edge elevation of the same. Fig. 6 is a view in perspective of one of the rail plates. Fig. 7 is a side elevation of one of the liners. Fig. 8 is a view in perspective of one of the cushion blocks.

On a metallic tie of the channel shape having the sides 1 cut and inwardly bent forming lugs 2, I place my fastener, which fastener consists of cushion blocks 3, having inclined sides and vertical ends. Each of said blocks has an open channel 4 cut in the upper side thereof and grooves 15 parallel therewith in the upper edges and longitudinal with said tie, and a groove 5 cut in one of the upper edges transverse to said channel 4. Said blocks are made of wood, fibrous material or concrete having an asphaltum binder, and are placed adjacent said lugs 2. On each of said blocks is placed a rail plate 6 having each end thereof bent downward and then outward to form an extended flange 7 to engage below the said lugs 2. In order to accommodate my fastener to rails having different width bases I cut the sides 1 of the tie so that there is a space between the end of said lugs 2 and the shoulder 16 of the tie, and to use a rail having a narrow base I place one of said liners 14 between said shoulder and the end of said lug 2. Each of said liners has its ends bent to form a hook 17 thereon, which hooks when in place engage the sides 1 of the tie. Rail clamps 8 each having an elongated circular hole 9 therein are then placed adjacent said blocks 3 on the inclined sides. Each of said rail clamps has the upper portion 18 bent at an angle to engage the base flange of a rail that is supported by said rail plate and block. Insulating material 10 may be used around said base flange to insulate said rail from said rail plate and clamps. A threaded bolt 11 having a cone shaped head 12 on one end thereof is inserted through one of said clamps 8 in the elongated hole 9, beneath the rail plate 6, with the other end protruding through the said elongated hole 9 in the other clamp 8. A cone shaped nut 13 when screwed on said bolt will engage the lower end of the said elongated hole 9 and the bottom of said rail plate on one side of the said rail plate while the cone shaped head of the bolt will likewise engage the said clamp 8 and the opposite side of said rail plate and draw said clamps inward and downward in gripping contact with the base flange of the rail. Said rail plates 6 are prevented from upward movement by said lugs and in order that said clamps may grip said rail they must have a movement inward and downward. For that reason the lower ends of said clamps do not extend to the bottom of the tie, nor does said nut 13 or bolt head 12 engage the upper portion of said elongated holes 9 in said clamps 8.

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

1. In combination with inwardly extended lugs on a metal tie of channel shape, cushion blocks therebetween having inclined sides; a rail plate on each of said blocks having its ends bent downward and extended outward to engage the underside of said lugs; a liner placed contiguous one edge of said rail plate having each end thereof bent to engage the sides of said tie; rail clamps each having an elongated circular hole therein placed adjacent said inclined sides of said blocks; a threaded bolt having a cone shaped head inserted through the said elongated

holes in said clamps and below said rail plate; and a nut screwed on said bolt having a portion thereof conical in shape.

2. In combination with inwardly extended lugs on a channel shaped metal tie; cushion blocks having two sides of each inclined and channels cut in the upper side adjacent said lugs; a rail plate on each of said blocks having the ends thereof bent downward to engage beneath said lugs; a liner adjacent said rail plates and the end of said lugs; depending hooks thereon adapted to engage the sides of said tie; clamps adjacent the inclined sides of said blocks and each provided with an elongated circular hole and a portion bent to grip the base flange of a rail; a threaded bolt, having a cone shaped head, inserted through said holes and below said rail plate; and a cone shaped nut screwed on said bolt tending to draw said clamps inward and downward in gripping contact with the base flange of a rail and to hold said liner in place.

3. In combination with inwardly extended lugs on a channel shaped metal tie; cushion blocks having the sides of each inclined outwardly and channels cut in the upper side; a rail plate superimposed on each of said blocks and having each end portion bent to engage in the channels in said blocks and below said lugs; liners adjacent said rail plates and having their ends bent to engage the sides of said tie; clamps adjacent the inclined sides of said blocks each having an elongated circular hole therein and a portion bent to grip the base flange of a rail; and a threaded bolt and nut screwed thereon adapted when placed in said holes and below said rail plate and tightened to cause said clamps to grip the base flange of a rail.

4. In combination with the inwardly extended lugs of a channel shaped metal tie, of cushion blocks between said lugs having the sides of each outwardly inclined and each provided with open channels in the upper side thereof; a rail plate superimposed on each of said cushion blocks and having the end portions bent downward and outward to engage in the outer of said channels in said blocks and with the underside of said lugs; liners placed adjacent said rail plates; hooks formed on the ends of said liners adapted when in place to engage the sides of said tie; clamps contiguous the inclined sides of said blocks and having elongated circular holes therein and a portion bent to grip the base flange of a railway rail resting on said rail plate; a threaded bolt having a cone-shaped head inserted through said elongated circular holes and below said rail plate; and a cone shaped nut adapted when screwed on said bolt to contact with the lower end of one of said elongated circular holes and with the under side of said rail plate and to draw said clamps downward and inward in gripping contact with the base flange of the rail resting on said rail plate and to prevent said liners from vertical displacement.

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

ARTHUR C. CANDLAND.

Witnesses:
GOULD B. BLAKELY,
SAM RANEY.

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