

A. D. PRINGLE.  
RAIL FASTENING FOR CONCRETE TIES.  
APPLICATION FILED MAR. 30, 1912.

1,032,939.

Patented July 16, 1912.

2 SHEETS—SHEET 1.

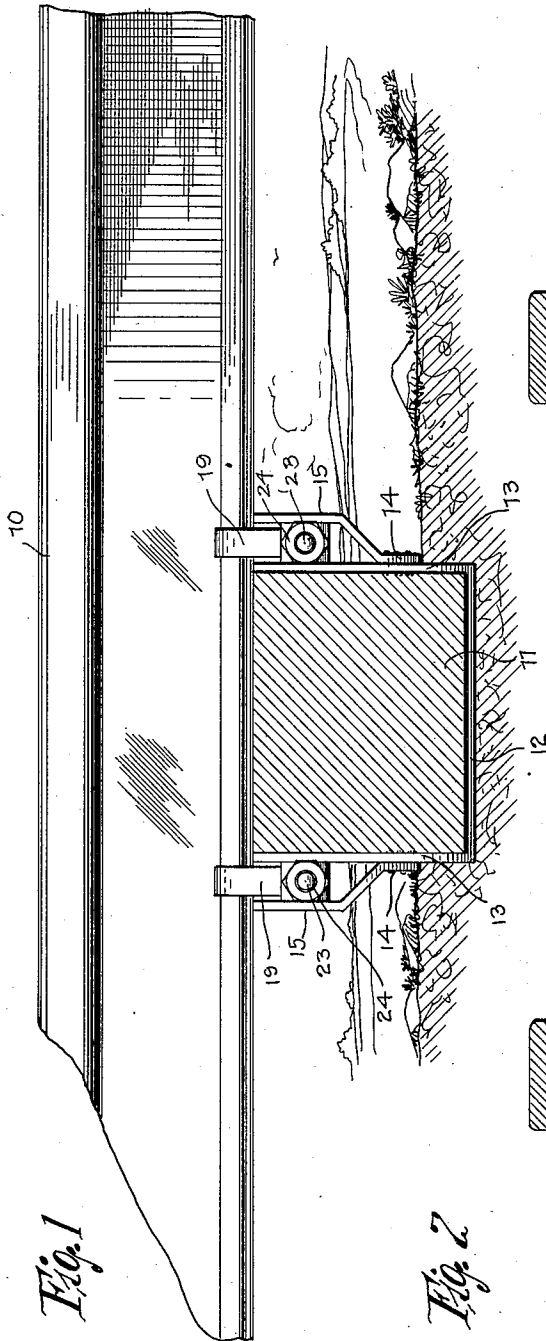


Fig. 1

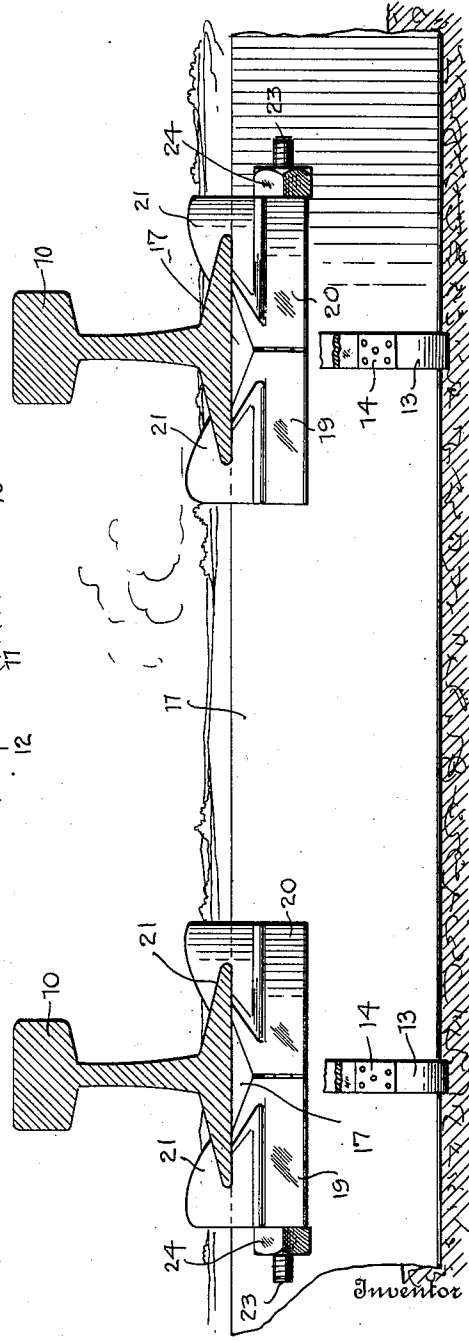


Fig. 2

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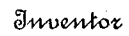
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His Attorney.

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2 SHEETS--SHEET 2.



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# UNITED STATES PATENT OFFICE

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## RAIL-FASTENING FOR CONCRETE TIES.

1,032,939.

Specification of Letters Patent.

Patented July 16, 1912.

Application filed March 30, 1912. Serial No. 687,359.

To all whom it may concern:

Be it known that I, ARTHUR D. PRINGLE, a citizen of the United States, residing at South Brownsville, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Fastenings for Concrete Ties, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to railroad ties, and the principal object of the same is to provide an improved type of fastening means used for securing a rail to the tie. This fastening means is slidably mounted upon the tie so that it is easy to secure the rail, it not being necessary to place the securing means at any certain spot upon the tie. This securing means holds the rail very securely to the tie and prevents creeping. It should also be noted that the single operation of tightening the rail engaging means tightens the entire securing device so that the device itself is held securely to the tie.

This invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a view showing the rail in side elevation and the tie in section. Fig. 2 is a side elevation of the tie. Fig. 3 is a top plan view of the clamp, the rail and tie being indicated by dotted lines. Fig. 4 is a perspective view of one end of the clamp holder the tie being indicated by dotted lines. Fig. 5 is a side elevation of one of the clamps the lower portion being broken away to show the manner of connecting the two sections of the clamp. Fig. 6 is a sectional view taken through the clamp shown in Fig. 5. Fig. 7 is a side elevation of a modified form of clamp, the central portion of the clamp being broken away. Fig. 8 is a perspective view of one of the members of the clamp shown in Fig. 7. Fig. 9 is a perspective view of the second member of the clamp shown in Fig. 7.

Referring to the accompanying drawings, it will be seen that this invention comprises a device which is intended to connect the rails 10 with the tie 11. These securing devices each comprises a band which surrounds the tie, the band being formed from a strip of metal bent to form the bridge 12 having the arms 13 extending therefrom. A strip 14 is secured to each of the arms 13, and has its upper portion 15 bent away from the arm 13 to form a pocket 16. A block 17 is

mounted between the arm 13 and upper portion of the strip 14, the block being provided with the inclined faces 18 which form cam faces.

A clamp is mounted in each of the pockets 16, and engages the base of the rail so that the rail will be very securely connected with the tie. These clamps are each formed from a pair of sections which are adjustably connected together so that they may be tightened the desired amount. This clamp may be formed as shown in Fig. 2, or may be formed as shown in Fig. 7, the operation of the two clamps being very similar. In the form shown in Fig. 2 there is provided the two sections 19 and 20 each of which is provided with the claw 21, and with the sloping face 22. A bolt 23 is embedded in the opening formed in the section 20, and preferably welded therein, and extends through an opening formed in the section 19 with its threaded end protruding beyond the outer end of the section 19 so that a clamping nut 24 may be screwed upon the threaded end of the bolt to adjust the sections.

When using this device, the clamp is passed through the pocket 16 and positioned with the block 17 resting upon sloping surfaces 22 and with the claws 21 engaging the base of the rail. The nut 24 is tightened and this draws the sections of the clamp together so that the claws ride upon the sloping upper face of the rail base and the sloping faces 22 engage the sloping faces 18 of the block 17. As the nut is tightened the claws ride up the sloping face of the rail base, thus drawing the rail downwardly and as the sections are tightened the sloping faces 18 and 22 act as cams to force the block 17 toward the rail base thus drawing the band tightly about the tie and forcing the block against the rail base, so that the rail is very securely held in place. This type of clamp would be very convenient to use on ties such as cement ties, since the tie could be formed without it being necessary to form a rail seat in each end of the tie or making it necessary to embed the clamping means in the tie as is the general practice in cement ties now on the market. It should also be noted that this device can be used upon wooden ties, or upon metallic ties, as well as upon cement ties.

In Figs. 7, 8 and 9, I have shown a modified form of clamp in which there is pro-

vided the sections 25 and 26. The sections are each provided with the claws 27, and with depending lugs 28, the depending lugs forming bearings for the adjusting bolt 29. The section 26 is provided with the tongues 30 which extend from its inner edge and is provided with a pocket 31 located between the tongues 30 and leading into the section 26. The section 25 is provided with a centrally located tongue 32 which extends from the inner end of the section and is centrally located so that it will fit between the tongues 30 and pass into the pocket 32 when the sections are drawn together by the adjusting bolt. To each side of the tongue 32 there is provided a pocket 33 in which the tongues 30 pass when the two sections of the clamp are drawn together. When using this device, the clamp is passed through the pocket 16 with the block 17 resting upon the sloping faces 34 of the clamp sections, and the adjusting bolt 29 is tightened to draw the sections together. This clamp acts in a similar manner to the clamp shown in Fig. 2.

Having thus described my invention, what I claim is:—

1. A rail securing device comprising a frame adapted to be positioned around a tie, blocks carried by the end portions of said frame and forming pockets, and securing clamps passing through said pockets and engaging the base of a rail, the sections of the clamp forming cams for forcing said blocks against the lower face of the rail base.

2. A rail securing device comprising a frame fitting around a tie and having pockets formed in its upper end portions, clamps passing through said pockets and adapted to engage the base of a rail, each of said clamps being formed from a plurality of sections, and means for drawing said sections together to clamp the base of a rail and to force the upper end portions of said frame against the base of a rail.

3. A rail securing device comprising a frame, blocks carried by the upper ends of

said frame, the lower faces of said block being sloping to form cam surfaces, a clamp passing beneath each of said blocks and adapted to engage the base of a rail, each of said clamps being formed from a plurality of sections having their upper faces sloping to form a pocket in which said block fits, and means for drawing said sections together whereby said clamp will tightly grip a rail and said block will be forced against the bottom of a rail.

4. A rail securing device comprising a frame, blocks carried by the end portions of said frame, clamps passing beneath said blocks and adapted to engage the base and rail, said clamps being formed from a plurality of sections, one of said sections being provided with a socket and the remaining section being provided with a longitudinally extending opening registering with said socket, and an adjusting bolt embedded in said socket and passing through said opening whereby the sections of said clamp may be drawn together.

5. In a rail securing device, a clamp comprising a plurality of sections, each of said sections being provided with rail engaging claws and with depending lugs forming bearings, arms extending from the inner end of said sections, said sections being provided with a socket positioned between said arms and leading into the body portion of the section, the other of said sections being provided with an arm adapted to pass between the arms of said first-mentioned section and being provided with sockets positioned to each side of its arm in which the arms of said first-mentioned section are adapted to pass, and adjusting means passing through said bearings and adapted to draw said sections together.

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

ARTHUR D. PRINGLE.

Witnesses:

GEO. L. HERRINGTON,  
WATSON CRAWFORD.