

J. T. NINNIS.  
RAIL-FASTENING.  
APPLICATION FILED MAR. 8, 1909.

930,313.

Patented Aug. 3, 1909.

FIG. 1

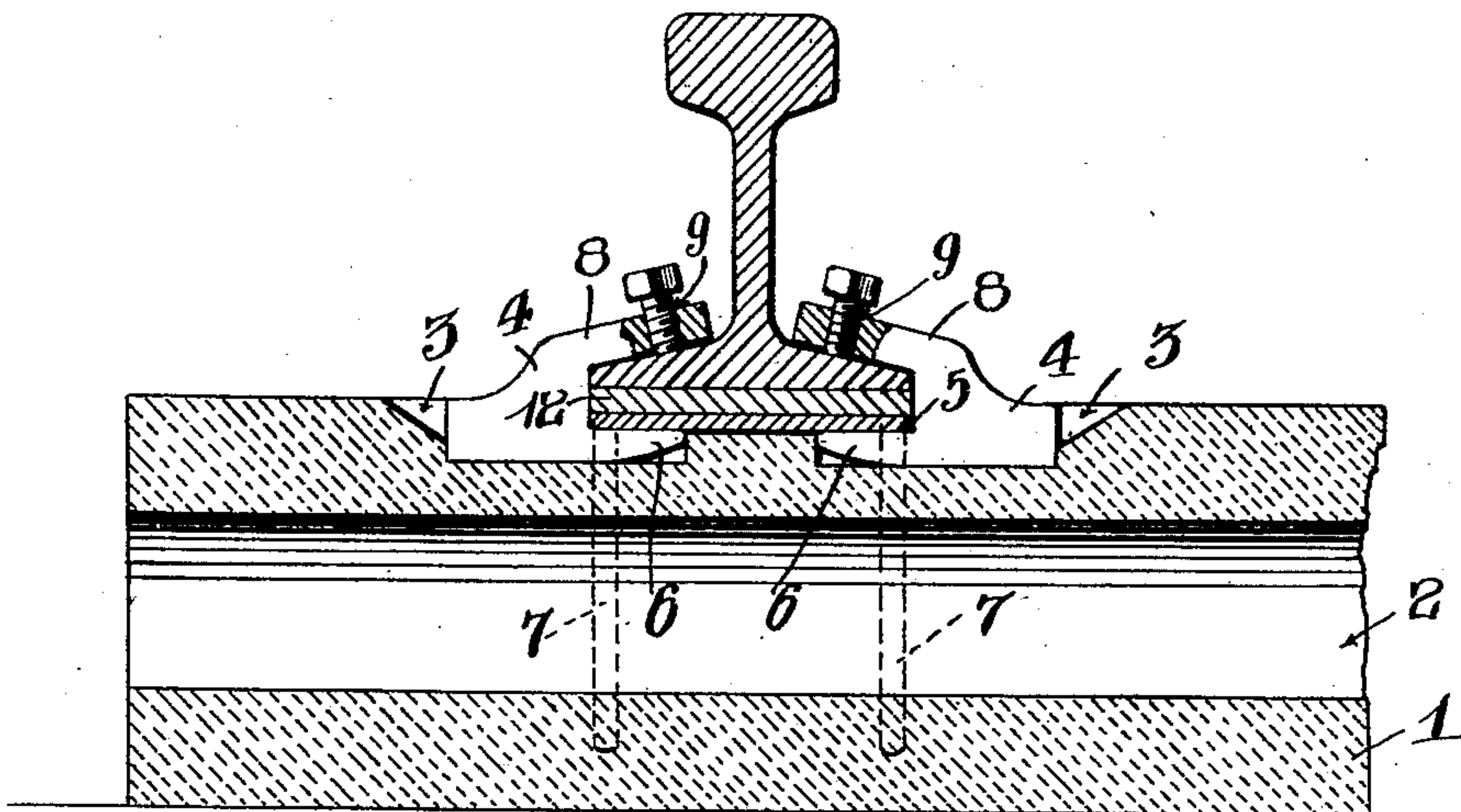


FIG. 2

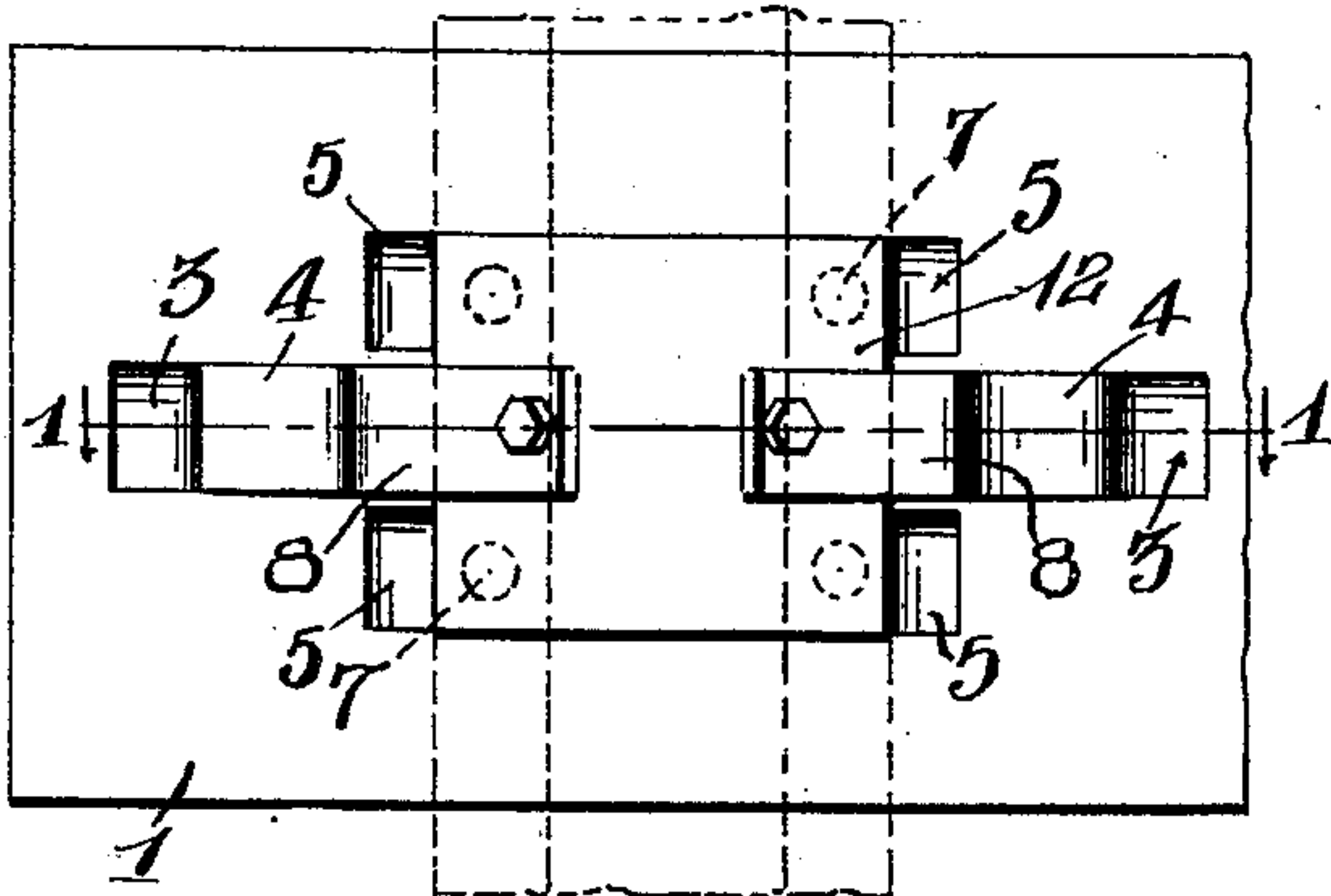


FIG. 3

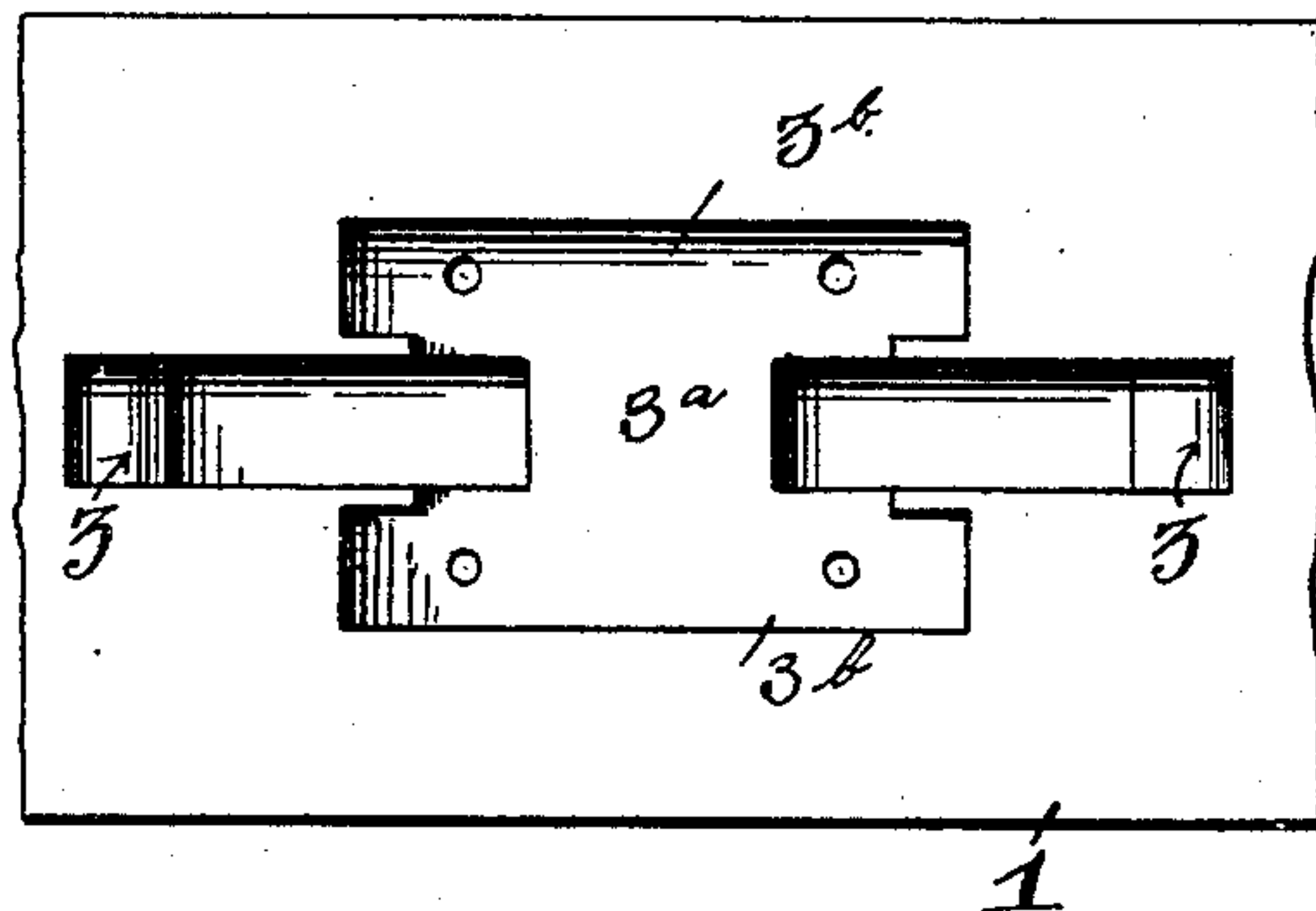
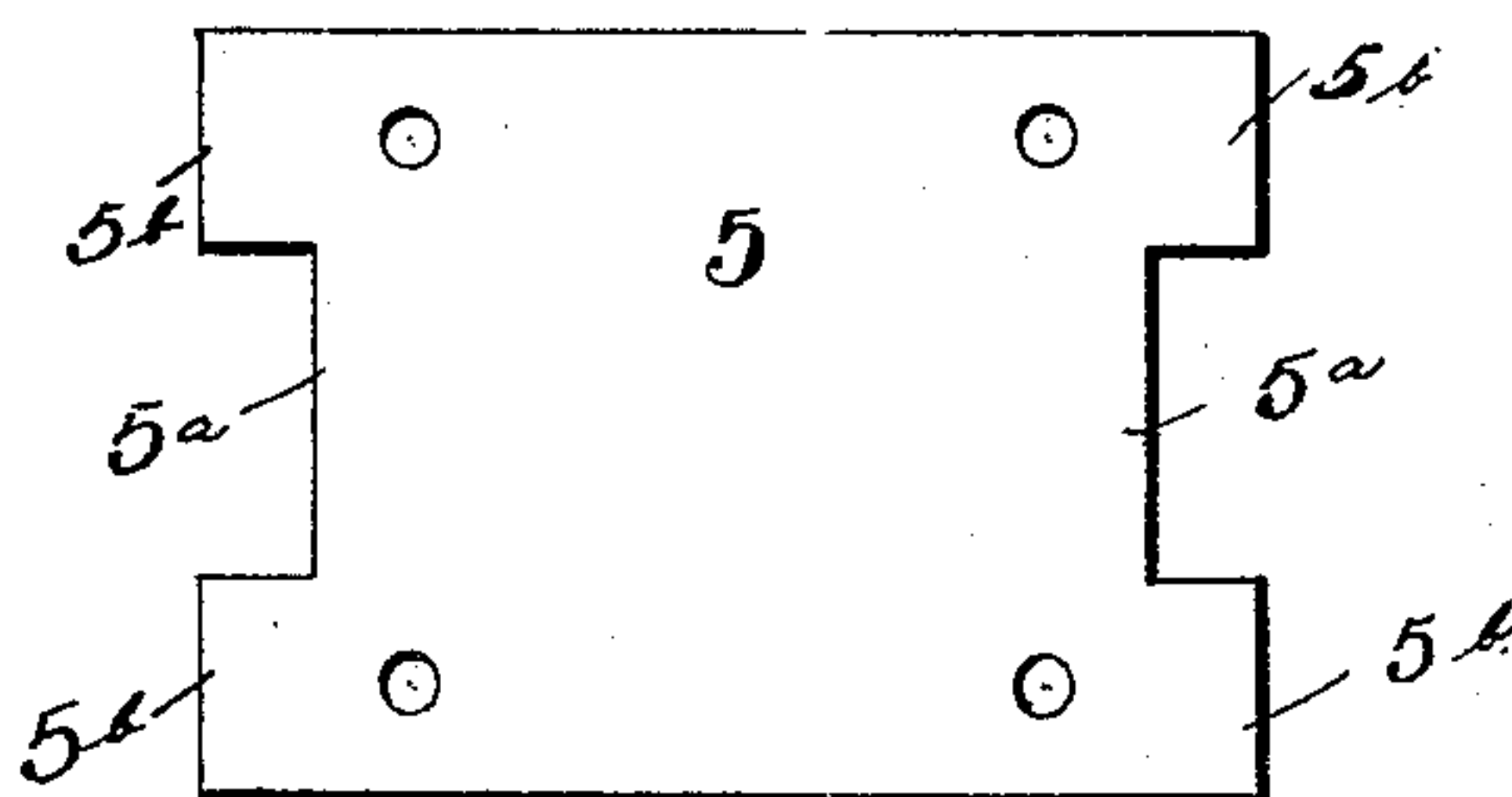


FIG. 4



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# UNITED STATES PATENT OFFICE

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## RAIL-FASTENING.

No. 930,313.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed March 8, 1909. Serial No. 482,130.

*To all whom it may concern:*

Be it known that I, JOHN T. NINNIS, a citizen of the United States, residing at Bisbee, in the county of Cochise and Territory of Arizona, have invented certain new and useful Improvements in Rail-Fastenings; and I do 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.

This invention relates to improvements in rail fastenings.

The object of the invention is to provide an improved construction of rail fastenings having means whereby the same are detachably engaged with the ties to secure the rails in position thereon and to prevent spreading of the rails.

A further object is to provide improved means for detachably securing the rail fastening devices to the ties and means to cushion the engagement of the rails with the ties whereby vibration of the parts is permitted.

With the foregoing and other objects in view the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a vertical sectional view through one end of a tie showing the construction and arrangement of the rail securing devices and the cushioning device. Fig. 2 is a top plan view of the tie and fastening devices showing the rails in dotted lines. Fig. 3 is a top plan view of the end of the tie showing the construction of the same to receive the rail fastening devices and their attaching plate, and Fig. 4 is a plan view of one of the attaching plates for the rail fastening devices.

Referring more particularly to the drawings 1 denotes the tie which is here shown and is preferably constructed of concrete and is formed throughout its length with a longitudinally disposed passage 2 to provide for the proper vibration of the tie. In the top of the tie where the rail crosses it are formed oppositely disposed longitudinally extending recesses 3 (see Fig. 3) to receive the lower portions of the rail fastening devices 4 and a projecting portion 3<sup>a</sup> is formed between them, the upper face of which terminates below the upper face of the tie proper to form a

seat for an attaching plate 5, the ends of which project a suitable distance over the inner ends of each of the recesses 3 to form sockets for the reception of attaching lugs 6 formed on the lower inner ends of the rail fastening devices 4. The lower faces of the free ends of said lugs 6 are preferably beveled as is shown clearly in Fig. 1. The outer ends of the recesses 3 are also preferably beveled as shown in Fig. 1 to facilitate the insertion of the fastening devices 4. Longitudinally extending recesses 3<sup>b</sup> are formed at opposite sides of and spaced slightly from the recesses 3 and are of less length than said recesses 3 the bottoms of said recesses 3<sup>b</sup> being in the same horizontal plane as the upper face of the projection 3<sup>a</sup>. The plate 5 is preferably notched or cut out a suitable distance at the center of each end to form laterally spaced arms 5<sup>b</sup> which are designed to fit in the recesses 3<sup>b</sup> at opposite sides of the recesses 3, the walls of which hold the plate against lateral and longitudinal movement, the body of said plate being seated on the projection 3<sup>a</sup>. The plates 5, two of which are used for each tie may be secured to the ties in any suitable manner but are preferably anchored thereto by bolts 7 which pass through the plates and are embedded in the ties as is clearly shown in Fig. 1 of the drawings.

The fastening devices 4 are provided at their inner ends with longitudinally extending rail engaging lugs or arms 8 spaced from the lugs or arms 6 and which are adapted to slip over and engage the upper face of the base flange of the rail. In the arms 8 are formed threaded apertures 9 to receive clamping screws which are screwed there-through and into engagement with the upper side of the rail flanges thereby rigidly securing the rails and fastening devices together. The lugs or arms 8 of these fastening devices securely hold the rails in engagement with the ties while the clamping screws prevent the rails from creeping. The seating of the fastening devices 4 in the recesses 3 in the ties holds the rails in alinement and prevents them from spreading or upsetting.

To provide for the proper vibration of the rails and their connecting parts a cushion 12 is preferably provided which may be of any suitable construction, but is preferably in the form of a plate composed of wood fiber or similar material which is placed on the attaching plate 5 between it and the rail base. This cushion plate 12 is set into the tie a



slight distance to prevent disengagement therefrom, but projects a sufficient distance above the top of the tie to receive the rail and to hold the same slightly above the top of the tie.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

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

1. In a rail fastening a tie having recesses formed therein, an attaching plate secured to the tie and projecting over the inner ends of said recesses, rail fastening devices having on their lower edges attaching lugs adapted to be engaged with said attaching plate whereby said fastening devices are held on the tie, rail engaging lugs formed on said fastening devices and adapted to be engaged with the rail flanges, and clamping screws arranged in said fastening lugs and adapted to be screwed into engagement with the flanges of the rails.

2. In a rail fastening a tie having formed in its upper side recesses, an attaching plate secured to said tie over the inner ends of said

recesses thereby forming sockets, rail fastening devices having formed thereon attaching lugs adapted to be engaged with the sockets formed by said recesses and said attaching plate, rail engaging lugs formed on said fastening devices, and adapted to be engaged with the flanges of the rails, and means whereby the rails are held against creeping.

3. In a rail fastening, a tie having recesses formed in its upper side, an attaching plate secured to said tie over the inner ends of said recesses to form sockets, rail fastening devices adapted to be inserted in the recesses formed in said tie and having attaching lugs formed at the lower edge of one end thereof and adapted to extend into said sockets, rail engaging lugs formed on the end at the upper edge of said fastening devices, said lugs being adapted to be engaged with the flanges of the rails, clamping screws arranged in said engaging lugs and adapted to be screwed into engagement with the flanges of the rails to prevent the latter from creeping and a cushioning device arranged on the attaching plates to receive the rails.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN T. NINNIS.

Witnesses:

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W. P. MARDON.