

936,989.

Patented Oct. 12, 1909.

Fig. 1.

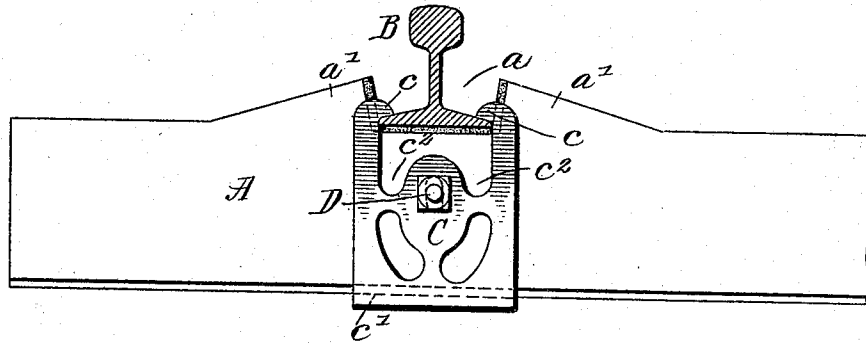


Fig. 2.

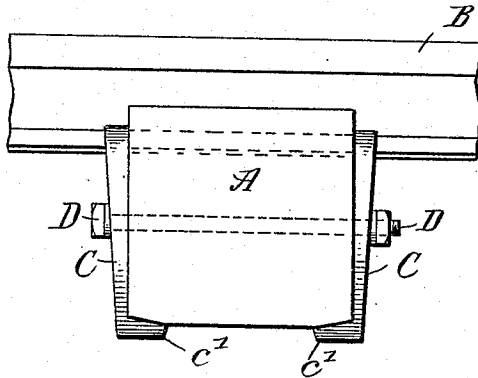


Fig. 3.

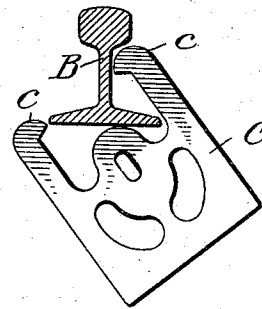


Fig. 5.

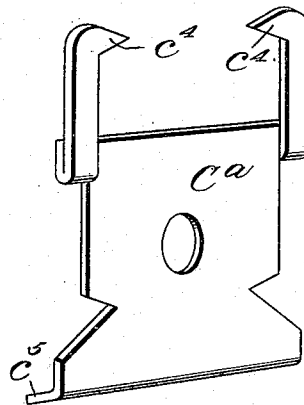
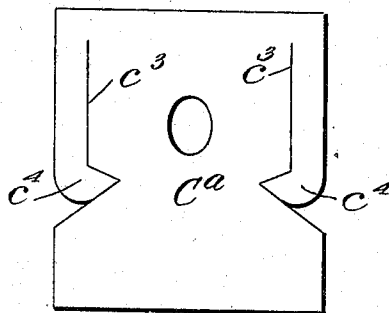


Fig. 4.



WITNESSES

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JAMES PETER DONOVAN, OF GEORGETOWN, KENTUCKY.

RAILROAD-TIE AND RAIL-FASTENER.

936,989.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed January 23, 1909. Serial No. 473,898.

To all whom it may concern:

Be it known that I, JAMES PETER DONOVAN, a citizen of the United States, residing at Georgetown, in the county of Scott and State of Kentucky, have invented an Improvement in Railroad-Ties and Rail-Fasteners, of which the following is a specification.

My invention is an improvement in railroad ties and means for securing rails thereto.

The tie is provided with rail-seats which serve to prevent lateral movement of the rails, and my improved rail-fastener prevents vertical separation of the rails from the ties. Thus the fastener coacts with the ties in holding the rails secured against both lateral and vertical movement of the rails relative to the ties.

In the accompanying drawings—Figure 1 is a side view of a portion of a tie and rail secured together by my improved fastening; Fig. 2 is a view at right angles to the view shown in Fig. 1; Fig. 3 is a view illustrating the operation of applying the fastening to a rail base; Fig. 4 is a plan view of the blank of a modified form of fastening; Fig. 5 is a perspective view of such modified device in the form in which it is used.

I will first describe the invention illustrated in Figs. 1-3. In Figs. 1-2, A indicates a railroad-tie provided at *a* with a rail-seat which is formed by means of integral shoulders *a'* raised on the upper surface of the tie and separated by a space sufficient to admit the base of the rail B. In practice, I prefer to employ a tie made of concrete, such as shown and described in my application for patent, No. 453,057, filed Sept. 14, 1908, and my application No. 473,899. It is obvious that, with a rail-seat *a*, constructed in this manner, lateral movement or spreading of the rails is absolutely prevented. For holding the rails in the space and firmly fixed on the tie, I employ a fastening C, which is made in duplicate and applied on opposite sides of the tie, as shown in Fig. 2. The same consists of a metal plate, preferably iron or steel, which is provided at its opposite ends with claws *c*, *c'*, that are adapted to embrace the rail-base and tie base, respectively. That is to say, the fastening or plate C is provided with two upwardly extended arms whose upper ends are provided with claws *c* projecting inward and adapted to embrace the base of a rail B; while the

lower end of the plate is provided with a single claw *c'* whose upper edge is beveled to adapt it to engage the tie, as shown in Fig. 2. The length of the plate or fastening C is such that when the claws *c* bear upon the rail base, as shown, the claw *c'* will touch the underside of the tie A; and, when the two fastenings are drawn tightly together, as shown in Fig. 2, by means of a bolt and nut D, the claw *c'* will be forced inwardly and thus, by wedging action, draw and hold the rail B tightly upon the tie. In order that the claws *c* may have due strength, the plate C is preferably made thicker in its upper portion, as shown in Fig. 2. In order to provide for convenient application of the fastening C to a rail and tie, or its removal therefrom, its upper portions are cut out deeply, as indicated at *c²*, so that the distance between one of the claws *c* and the recess *c²*, which is diagonally opposite, will be greater than the width of the base of the rail. Thus, by inclining the fastening C, as indicated in Fig. 3, it may be passed on and over a rail base, and thus quickly applied and secured, as shown in Figs. 1 and 2.

I produce a modified form of fastening C^a, as shown in Figs. 4 and 5, the same being produced by cutting it out of a metal plate by means of dies. In this operation the plate is slit along the parallel lines *c³*, thus forming arms provided with claws *c⁴*, which are then bent upward, as shown in Fig. 5, into a plane parallel to the face of the plate C^a. The lower edge of the plate is bent laterally to form a claw *a⁵*, as shown in Fig. 5. The manner of applying and securing this fastening is practically the same as in the case of the fastening first described. By this simple, inexpensive fastening, I secure rails to ties so that lateral or vertical movement is absolutely impossible; and the fastening may be easily and quickly applied or removed.

As shown in Fig. 1, a cushion may be provided for the rail for the purpose of protecting the sides and edges of the rail-seats, that is to say, for preventing chipping of the shoulders of the rail-seats. This cushion may be formed of any suitable material, but I prefer rubber belting, since it possesses a due degree of resiliency combined with durability.

What I claim is:

1. The combination with a railroad rail and a tie provided with opposite shoulders spaced apart for reception of the rail and

serving to prevent lateral movement of the same, of a fastening consisting of a metal plate provided at the upper edge with inwardly projecting claws for embracing the
5 edges of the rail base, and at the lower edge with a claw arranged at right angles to the upper ones and adapted to embrace the lower edge of the tie, and means for securing such plate against the side of the tie, as shown
10 and described.

2. The combination, with a rail and tie having a rail-seat, of a fastening provided

with claws adapted to embrace the base of a rail, and a base claw which is beveled on the upper side, and a bolt and nut for securing
15 the fastening to the tie, the fastening being made of such length that when secured in place its lower claw has a wedging action with the tie, substantially as described.

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Witnesses:

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