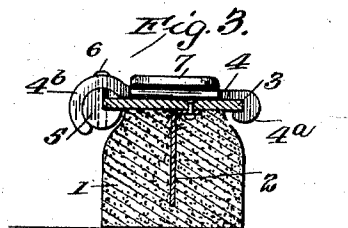
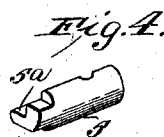
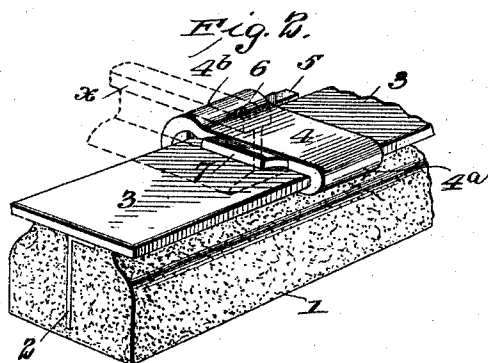
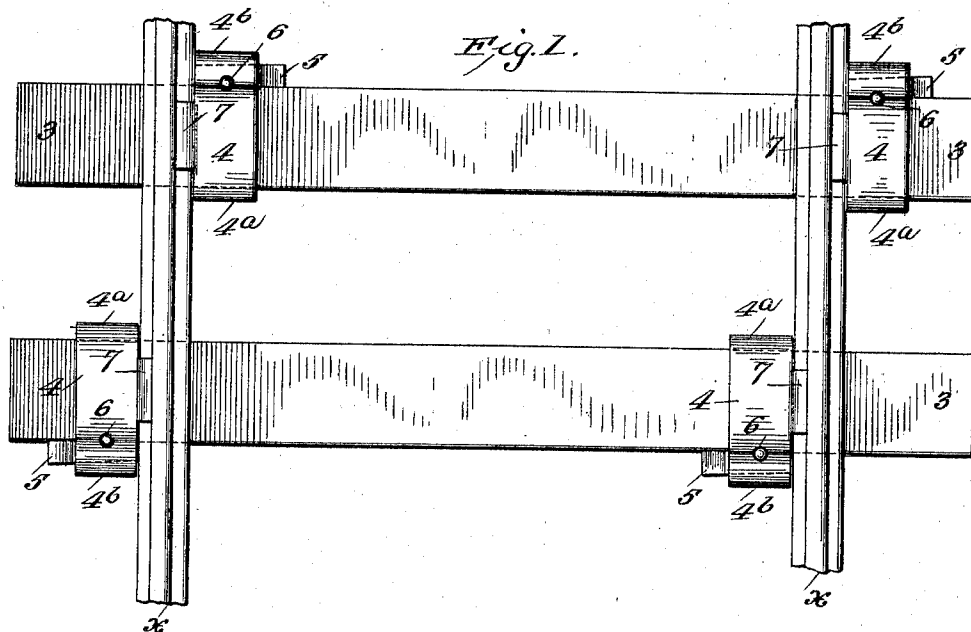


R. T. KIRKLAND.
RAILWAY RAIL FASTENING FOR RAILWAY TIES.
APPLICATION FILED MAY 7, 1910.

967,134.

Patented Aug. 9, 1910.



WITNESSES:
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RALPH T. KIRKLAND, OF ADAMS, NEW YORK.

RAILWAY-RAIL FASTENING FOR RAILWAY-TIES.

967,134.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed May 7, 1910. Serial No. 559,942.

To all whom it may concern:

Be it known that I, RALPH T. KIRKLAND, a citizen of the United States, and a resident of Adams, in the county of Jefferson and State of New York, have invented certain Improvements in Railway-Rail Fastenings for Railway-Ties, of which the following is a specification.

My improved rail fastening is particularly intended and adapted for use on reinforced concrete or other railway ties. In carrying out the invention, the concrete or other body of a tie is provided with a metal reinforce extending through it longitudinally, and to such reinforce is attached a metal plate that forms the flat top of the tie. My improved rail fastening is applied to said plate and is adjustable lengthwise thereof to adapt it for application to the base flange of a rail. The fastening includes a clip, adapted for application to the tie plate and provided with a lateral flange or lip for engaging the base of a rail, and a grooved wedge, which is engaged with the clip and by whose proper adjustment it clamps the latter in any required place.

The details of construction, combination, and operation of parts are as hereinafter described, and illustrated in the accompanying drawing in which—

Figure 1 is a plan view of a portion of a railway track including ties and rail fastenings according to my invention. Fig. 2 is a perspective view of a portion of a tie with a rail fastening applied according to my invention. Fig. 3 is a transverse section of the tie, the rail fastening being shown in full lines. Figs. 4 and 5 are perspective views of the eccentric forming part of my rail fastening.

As shown in Figs. 2 and 3, the body 1 of the tie is preferably formed of cement or concrete, and a reinforce consisting of a metal plate 2, is arranged vertically and longitudinally thereof. A thick, flat, metal plate 3 is laid on the top of the tie proper and secured by rivets, or otherwise, to the reinforce 2. This plate 3 forms the top surface of the tie, and, by the rigid connection of the same with the body 1, as described and illustrated, it forms practically a rigid portion of the composite tie. It will be noted in Figs. 2 and 3 that the sides of the concrete body 1 are grooved or cut away at the top, so that the side edges of the rail

plate 3 project beyond the adjacent portion of the body. By this construction, I provide for attachment to, and adjustment on, the plate 3 of my improved rail-fastening, which comprises a part that I term a clip 4, and a wedge 5. The clip 4 has a claw 4^a at one end while its opposite end 4^b has the form of a hook. The claw 4^a engages one edge of the rail plate 3 and the wedge 5 is applied to the other edge and in engagement with the hook 4^b as illustrated in Fig. 3. The wedge 5 has a lengthwise groove 5^a adapted to receive the edge of the rail plate 3. The wedge is otherwise practically cylindrical, although tapered slightly longitudinally. The groove in the wedge is made slightly deeper toward one end and thus the device is adapted to coact with the hook 4^b of the clip 4 in the following manner. The clip having been applied to the rail plate 3 in the manner shown in the drawing, the wedge is then applied to the opposite edge of the plate 3, its groove thus receiving said edge while the body of the wedge is pushed into the hook 4^b, in which, owing to its tapered form and the taper of the groove, it wedges firmly. To further increase the frictional hold, the wedge 5 is rotated a part of a revolution which may be effected by means of pincers applied to the reduced and squared end of the reinforce.

I desire it understood that I propose to employ the wedge either in tapered form or with the groove tapered, or with the groove arranged slightly eccentric, or it may have all of these characteristics in order to insure a firm grip between the hooked end 4^b of the rail plate 4 and the adjacent edge of the tie plate 3. After the wedge has been inserted as described, it may be further secured in place or prevented from either sliding or rotating, by means of a pin 6 which is inserted down through a hole in the hook 4^b of clip 4 and through the body of the wedge, as shown.

The clip 4 is provided on one side with a raised flange or lip 7 which engages the base flange of a rail *x* as illustrated in Fig. 1. It is to be understood that the clips or fastenings described may be applied on both the outer and inner sides of the rails *x*, but ordinarily they will be applied alternately on the outer and inner sides as shown.

By providing a tie having a concrete body

and reinforce as described with a top plate securely attached to the reinforce and projecting laterally from the body of the tie, provision is made for convenient, firm, but detachable engagement of a rail-fastening with a tie, which is also adapted for adjustment along the tie as required for applying it to, and detaching it from, a rail.

While the concrete body of the tie is shown in a certain form, I desire it understood that it may be grooved lengthwise or otherwise constructed to render it as light as practicable without unduly sacrificing strength and rigidity.

What I claim is:—

1. The combination, with a railway tie whose body is provided with a reinforce extending lengthwise through it, a metal plate secured to said reinforce and forming the top of the composite tie, of a rail fastening applied to said plate, its ends being constructed in hook form, and a fastening device applied to one of the hooked ends and serving to fasten the clip to the plate in any

required adjustment, substantially as described.

2. The combination, with a railway tie having at the top laterally projecting flanges, of a rail-fastening comprising a clip having hooked ends, and a central flange adapted to engage a rail base, and a wedge fastening adapted for insertion in one of the hooks of the clip, for frictional engagement with the adjacent edge of the tie plate, in the manner described.

3. The combination, with a railway tie having a top plate, of a rail-fastening comprising a clip having a flange for engaging a rail base and hooked ends, one for engaging the edge of the tie plate, and a wedge adapted for insertion in the opposite hook and for frictional engagement with the adjacent edge of the tie plate, substantially as described.

RALPH T. KIRKLAND.

Witnesses:

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