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C. J. EVERHARD.

RAILWAY TIE AND FASTENING.

APPLICATION FILED JAN. 21, 1908.

Fig. 1.

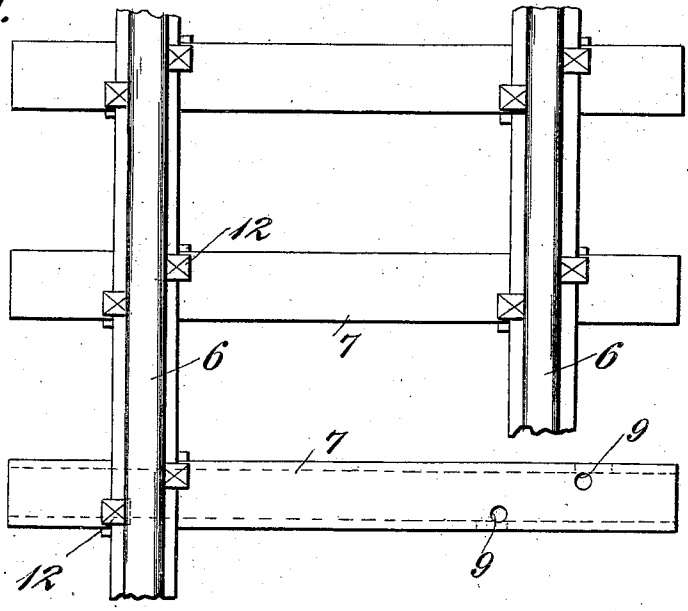


Fig. 2.

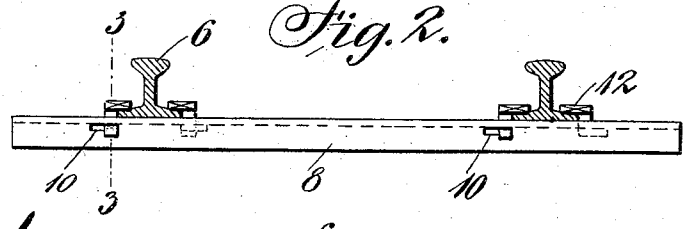
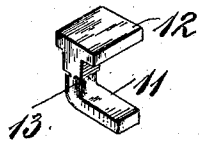


Fig. 4.



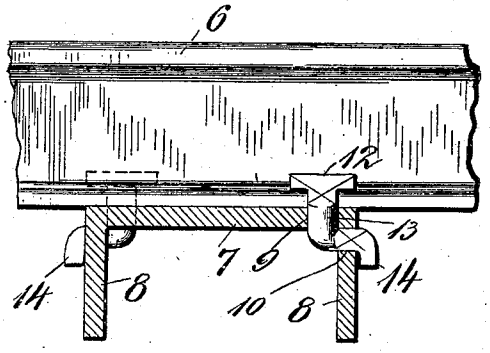


Fig. 3.

Witnesses

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RAILWAY-TIE AND FASTENING.

No. 891,237. Specification of Letters Patent. Patented June 23, 1908.

Application filed January 21, 1908. Serial No. 411,876.

To all whom it may concern:

Be it known that I, CHARLES J. EVERHARD, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Railway-Ties and Fastenings, of which the following is a specification.

This invention is a metallic tie and fastening, and has for its object to utilize ordinary structural steel channel metal for the tie, in connection with a fastening of cheap and simple construction and which can be readily applied and which when placed in position will hold without the use of screws, keys, nuts or other devices which are apt to become loose and work off or out and so loosen or release the fastening. In devices of this nature it is desirable that the parts be as few and simple as possible, and also that they be such as can be readily supplied without special cost or labor in manufacturing. The present invention allows ordinary channel bars to be used for the ties, and the fastening consists simply of one piece of metal shaped to engage the rail base and the tie and to hold the parts together in such manner that the fastening will not accidentally loosen, and, furthermore, so that the fastening cannot be loosened by meddlers, except by the use of tools or appliances not apt to be in the hands of unauthorized persons. The fastening can be readily wrought at small cost, and without the expense of screw threading, or machining to any great amount.

The invention is illustrated in the accompanying drawings, in which

Figure 1 is a plan view of a section of track provided with the ties. Fig. 2 is a side view of one of the ties. Fig. 3 is an enlarged section on the line 3—3 of Fig. 2. Fig. 4 is a detail in perspective of the fastening.

As shown in the drawings, the rails 6 rest upon the base or web 7 of a channel iron tie, the flanges 8 of which depend in position to be embedded in the ballast or road bed. These ties may be ordinary stock metal or shapes, and will require no special rolling. In order to receive the fastenings, the web 7 of each tie is punched as at 9 with round holes, and the flanges are slotted as at 10, with oblong slots. The holes 9 are located so as to match with opposite edges of the base of each rail, to allow the fastening to be located in close proximity to said edge; and the slots 10 are located in the flanges directly in line with or beside the holes 9. As shown in Fig. 3, each hole 9 at its outer edge is flush with the inner line of the flange of the tie, and the upper edge of each slot 10 is flush or in line with the under surface of the web 7. The latter feature is important in applying the fastenings.

The fastening consists of an angular bolt 11 provided at the top with a head 12 which is extended on one side to engage over the base of the rail. The bolt is cylindrical where it fits through the hole 9, as shown at 13. The head is preferably squared, so that it may be taken hold of by a wrench for the purpose of being turned. The foot of the bolt is of proper length to project through the slot 10 when the bolt is in position in the hole 9.

In applying the fastenings, the foot of the bolt is inserted through the hole 9 with said foot occupying a position parallel to the length of the flange 8 and the head 12 in a position parallel to the rail. Then the head is gripped by a wrench and the bolt turned to pass the foot thereof through the slot 10, in which position its end projects beyond the side of the tie. Then by a few strokes of the hammer the toe of the bolt is bent down, as shown at 14 in Fig. 3, over the edge of the slot, which prevents the bolt turning back. The turning action brings the extended part of the head 12 around over the base of the rail. The length of the body of the bolt is such that it will fit very snugly or draw down upon the base of the rail tightly when the same is turned. The bevel of the top of the base will produce this result if the bolt is made the proper length, and when the bolt is turned around with force the head thereof will grip and bind the base tightly, and the toe of the bolt when upset will hold the fastening firmly. The fastening can be removed when desired by hammering up the toe and turning the bolt back, to withdraw the foot thereof from the slot in the flange.

The bolts can be constructed at less cost than that required to produce an ordinary bolt and nut, and they can be fastened as quickly, and perhaps more quickly, than an ordinary driven spike, since it is simply necessary to drop the bolt in and give it a quarter turn with a wrench and then tap on the toe with a hammer to prevent it turning back. By having the upper edge of the slot flush with the under side of the web of the tie the shoulder will readily pass out through said slot and will not catch as it would if there

were a shoulder at the upper edge of the slot. The fastening can be put in or taken out without dislodging the tie and without moving the ballast, except perhaps a small quantity around the toe of the bolt. This is a decided advantage over those metallic ties which have fastenings located inside or underneath the tie and which are accordingly quite difficult to get at.

I claim:

1. The combination of a metal railway tie having a web at the top, on which the rails rest, and depending flanges, said web and flanges having openings therethrough, and angular retaining bolts extending through said openings and engaging over the rail base.

2. The combination of a metal railway tie having depending flanges, said tie having holes in the top and slots in the flanges beside said holes, and angular retaining bolts having heads at the top to engage the base of the rails, said bolts extending through said holes and slots and being adapted for turning in the holes, to pass the feet thereof through the slots.

3. The combination of a metal railway tie having a top with holes therein and side flanges with horizontal slots therein, the upper edge of the slots being in line with the under side of the top, and bolts extending through the holes and having heads at the top, and feet at the bottom extending angularly and adapted to be swung into or out of the slots by turning the bolts.

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

CHARLES J. EVERHARD.

Witnesses:
MARY L. MORTON,
GEO. E. TEW.