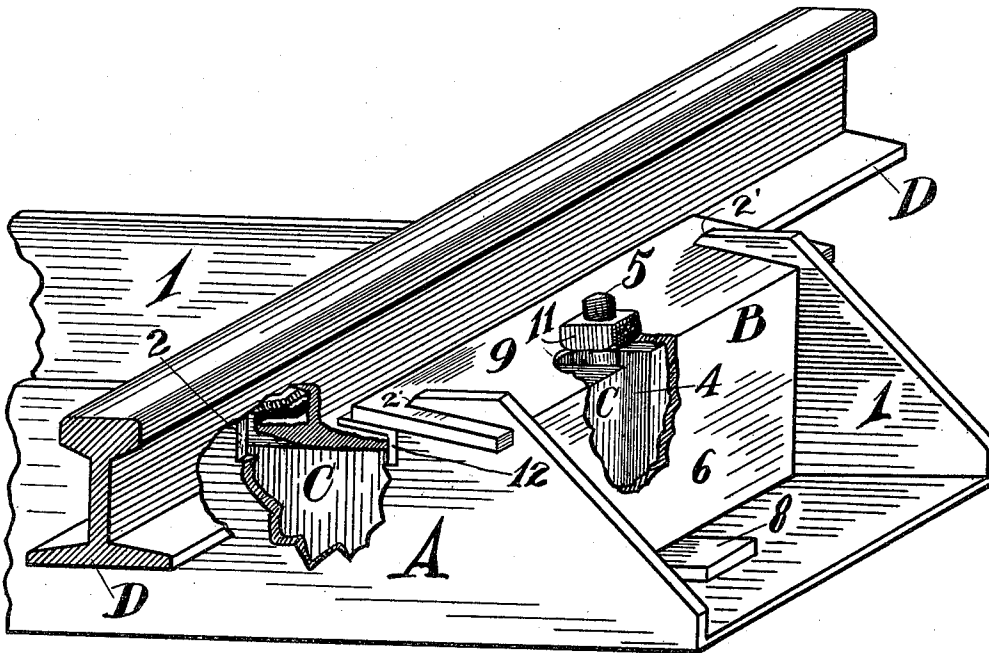
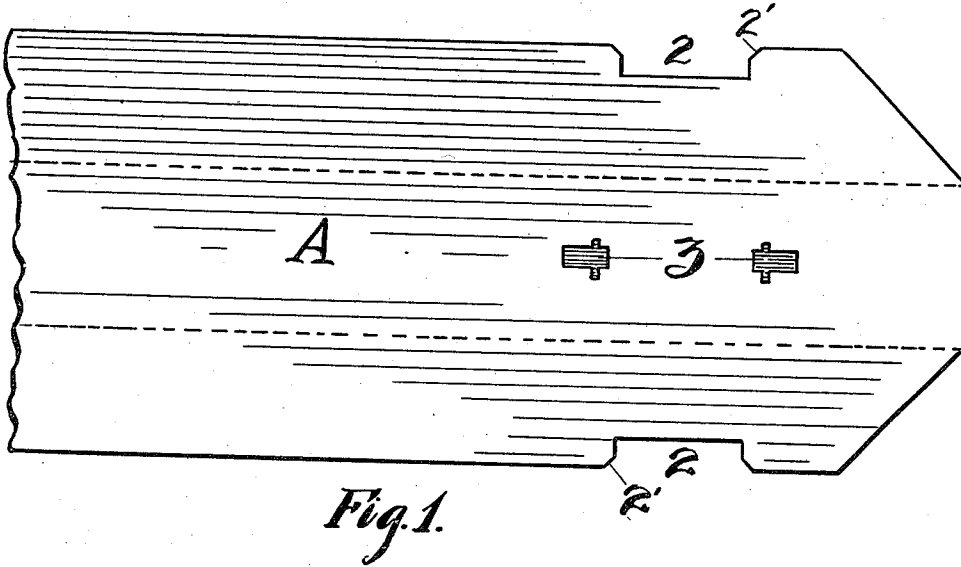


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RAILWAY TIE AND FASTENER.
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Patented Jan. 16, 1912.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

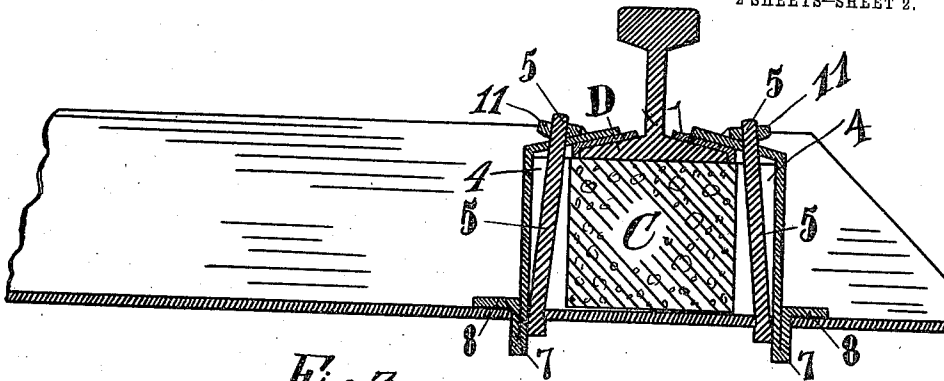


Fig. 3.

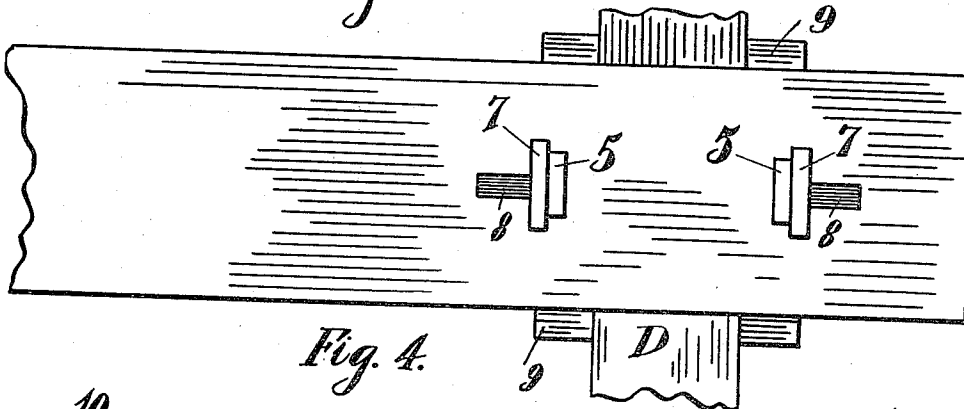


Fig. 4.

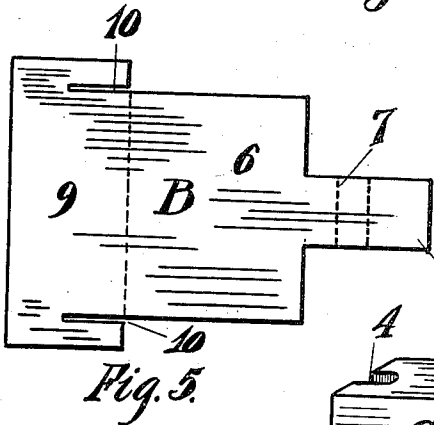


Fig. 5.

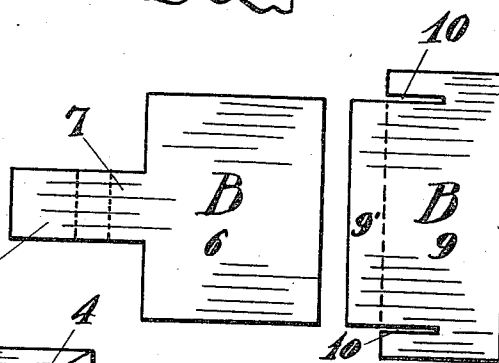


Fig. 6.

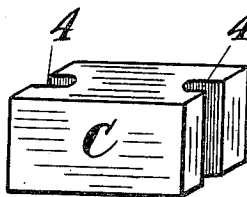


Fig. 7.

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UNITED STATES PATENT OFFICE.

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RAILWAY-TIE AND FASTENER.

1,014,948.

Specification of Letters Patent.

Patented Jan. 16, 1912.

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To all whom it may concern:

Be it known that I, JOHN T. CLARK, a citizen of the United States, residing at Provo city, in the county of Utah and State of Utah, have invented certain new and useful Improvements in Railway-Ties and Fasteners, of which the following is a specification.

The purpose of my invention is to provide a railway tie and fastener therefor, which possesses great durability, and has the rail-sustaining surface and cushion effect so much desired. These objects and advantages I accomplish, as well as others, which will appear in the following specifications and drawings, forming a part of this application.

In said drawings similar letters of reference indicate like parts throughout the several figures.

Figure 1 is a plan of the cut sheet before it is bent. Fig. 2 is a perspective view of my tie, the parts in place, portions cut away. Fig. 3 is a vertical longitudinal section. Fig. 4 is an inverted plan view. Fig. 5 is a plan of the metal sheet cut to form the clamp plates, and before it is bent. Fig. 6 is a modified form of the clamp plates, as cut, and before they are bent. Fig. 7 is a perspective of one of the cushion blocks.

My tie A is cut from a sheet of metal into the form as shown in Fig. 1, and is then bent to form an open channel 1, having rail-receiving cuts 2 in the sides, and portions of the sides cut slanting to form inclined edges 2', which inclined edges are to engage the cuts 10 in the clamp plates B, hereinafter described. In the bottom of said channel 1 are cut cross-shaped slots 3, the transverse parts of which are made to receive the lower portion 7 of the said clamp plates B, and the longitudinal parts are made to receive the rectangular-shaped heads of the threaded bolts 5. Within each end of the said channel 1, is placed an elastic or resilient block C, made from hydrocarbon cementitious concrete, preferably of asphalt and gravel, although any of the hydrocarbon compounds of the same nature may be used for the binder of the concrete that will produce in the block the elasticity and resiliency desired. The said blocks C are made of such thickness that when placed within said channel 1, they will prevent the bottom of the rails D, from con-

tacting with the edges of the said channel within the cuts 2. Said blocks have open cuts or channels 4 to receive the threaded bolts 5. The clamp plates B are cut from sheet metal in the form as shown in Fig. 5, and are then bent to form a bracket-shaped clamp, the vertical portion 6 of which is made to fit transversely within said channel 1. The lower end portion thereof 7 is cut the same width as the transverse part of the cross-shaped slots 3 in the bottom of the channel 1, and bent upon itself, and then at practically right angles; thus forming a covering 8 for one part of the longitudinal portion of the slot in the bottom of said channel 1. The upper portions 9 of said clamp plates B which are wider than the vertical portions, are bent at practically right angles to the vertical portion 6, and form the clamps that engage the flanges of the rails D. In order that said clamp plates B may closely engage said rail flanges, openings 10 are cut therein, and the inclined or slanting edges 2' of the said channel are made to slide therein. The extended end portions of said clamp plates B act as clamps for the sides of said channel 1. The portions 7 of said clamp plates B that are inserted through the bottom of said channel, act as lugs and prevent lateral displacement of the ties when in place on the road bed.

A modified form, or manner of making, said clamp plates B is shown in Fig. 6, where the vertical portion 6 and the clamp portion 9 are severed, on the dotted or bending line of Fig. 5, and the clamp portion 9 has a depending flange 9' made to fit over the upper edge of the vertical part 6. In all other respects the modified form is like the other. An insulating strip 12 is placed on the upper side of the flange of the rail and below the clamps.

In use my tie A is first placed on the road bed, and the said blocks C are placed therein, one in each end portion. The threaded bolts 5, have rectangular-shaped heads, are then inserted through the longitudinal portion of the said slots 3 in the bottom of the channel 1, and are turned one-quarter around, so that the said head will engage the bottom of the tie, and in that position may not be withdrawn. When said threaded bolts 5 are righted to the vertical they fit within the channels 4 in the ends of the said blocks C. The clamp plates B are

then placed in position with the lower end portions 7 thereof, being embedded in the road bed. Said lower end portions 7 also act as stops or stays to prevent the said bolts 5 from turning, also to hold the bottom of the said clamp plates B from moving longitudinally in the said channel 1, as said portions 7 engage in the transverse portion of the said slots 3. When the threaded nuts 11 are then placed on the said bolts 5, and turned down thereon, the tension will cause the clamp plates B to engage the flanges of the rails D, also to hold the sides of the said channel 1 in place. The inclined edges 2' of the said rail-receiving cuts 2 will cause the portion 9 of the said clamp plates B to grip the flanges of the rails more firmly, as the nuts are turned down the tighter, and the two directions co-act to produce this result. When the clamp portions 9 have passed over the incline 2', the vertical portions 6 of said clamp plates will firmly engage said blocks C.

Having thus described my invention, I desire to secure by Letters Patent and claim:

1. In a railway tie the combination of, a metal channel having rail receiving cuts in the sides and cross-shaped slots in the bottom; short blocks of hydrocarbon cementitious concrete closely fitted within said channel and having vertical channels in the sides thereof; clamp plates, one portion thereof being adapted to fit transversely within said channel, and one portion to engage the flanges of the rails, and vertically placed bolts adapted to engage within the cross-shaped slots in the bottom of said metal channel and the said channels in said blocks

and adapted to hold said clamp plates in place.

2. A railway tie and fastener formed from a sheet of metal having open cuts in its edges and cross-shaped slots in the central portion thereof and bent to form an open, upturned channel, hydrocarbon concrete blocks within each end portion of said channel and adjacent to said open cuts, plates cut from a sheet of metal and bent to form bracket-shaped clamps, one portion having open slots therein and bent to grip the flanges of the rail, the other portion adapted to fit transversely within said channel, its lower end bent upon itself and a portion at right angles to the bent upon section, vertically placed bolts with threaded nuts thereon which engage the bottom of said channel and said clamps.

3. In a railway tie and fastener the combination of, an upturned metal channel, hydrocarbon cementitious blocks within each end portion thereof, bracket-shaped clamp plates, one portion having open slots therein and bent to clamp the flanges of the rail, the other portion being adapted to fit transversely within said channel, and means to hold said clamp plates and channel together, which means consist of a vertically placed threaded bolt, the head of which engages in the bottom of said channel and having a threaded nut thereon which engages one portion of said clamp plates.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN T. CLARK.

Witnesses:

SAM RANEY,
GOULD B. BLAKELY.