

W. McCLOY.
RAILROAD TIE.
APPLICATION FILED MAY 14, 1907.

Fig. 1.

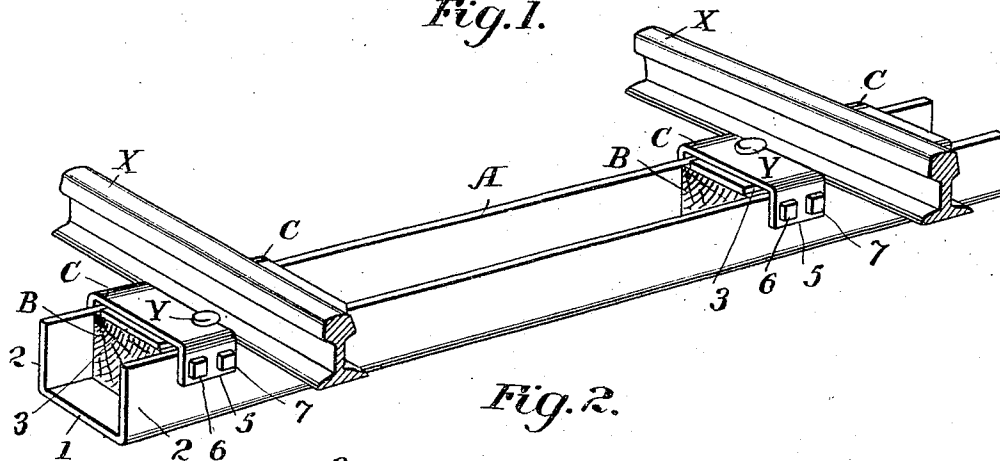


Fig. 2.

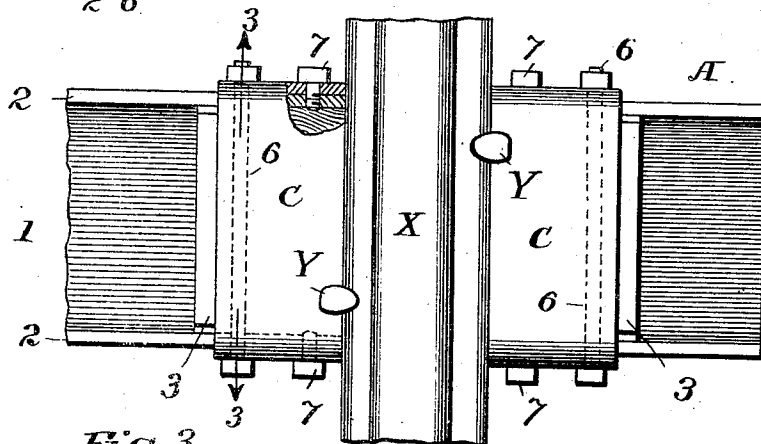


Fig. 3.

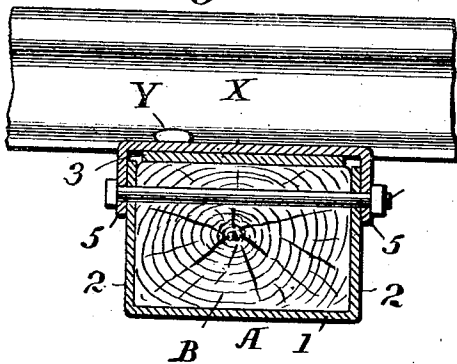
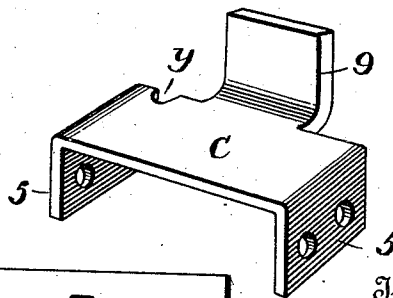
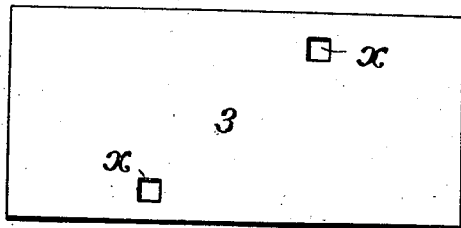


Fig. 5.



Witnesses
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Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM McCLOY, OF CRESSONA, PENNSYLVANIA.

RAILROAD-TIE.

No. 868,212.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed May 14, 1907. Serial No. 373,534.

To all whom it may concern:

Be it known that I, WILLIAM McCLOY, a citizen of the United States, and a resident of Cressona, county of Schuylkill, State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification.

My invention relates to railway ties and consists of a tie formed of flanged tie plates, flanges, clamps, blocks and bearing plates, as fully set forth hereinafter, and as illustrated in the accompanying drawings, in which

Figure 1 is a perspective view showing parts of two parallel rails and my improved tie supporting the same; Fig. 2 is an enlarged plan of one of the rails and the adjacent parts; Fig. 3 is a section on the line 3, 3, Fig. 2; Fig. 4 is a plan view of one of the bearing plates, and Fig. 5 is a view showing the form of the outside clamps for use upon curves and where extra lateral resistance is required.

The tie A is of metal, preferably bent up from a single flat rolled sheet of steel to form a bottom portion 1, and two parallel upturned side flanges 2, 2.

The rails X, X, instead of resting upon the tie, have their bearings upon wooden blocks B, which are adapted to fit between the upturned flanges or sides 2, 2, and about the height of the latter, and upon each block rests a flat plate 3, which is narrower than the distance between the upturned flanges 2, 2, so that it cannot possibly rest upon, or come in contact with the latter, the rail resting upon such plate so that the resiliency of a wooden tie is secured, very much more extended than the area of the lower face of the rail and equal to the area of the plate 3, in fact giving the same qualities as the wood tie.

The block is confined in place and the rails are held laterally in position by means of clamp plates C, C, each bearing with its side edge against the side of the lower flange or base of the rail and each bent down at the sides to form flanges 5, 5, such a distance apart as to overlap. The side flanges 2, 2, of the tie and the flanges 5, 5, are provided with perforations for the passage of a bolt 6, which extends completely across the tie, and of shorter screw bolts 7, 7, each of which passes through the opening in one of the flanges 5, and extends into the corresponding threaded socket in the flange 2 of the tie. By these means the wooden bearing block of the rails is secured in position between the flanges and the aforesaid extended bearing for the rails is secured in position also, and in order to prevent the lifting of the rails as well as any shifting of the plate 3, each clamp plate C has in its edge a recess y, in such position that a bolt Y or ordinary railroad spike driven downward through the

said recess will also pass through a recess x in the underlying plate 3, while the lip of the bolt or spike will overlap the bottom flange of the rail, as is usual.

It will be evident that all the metallic parts of the above-described construction except the usual bolts may be formed by bending up flat plates so that the tie may be made without the use of special machinery, and at a comparatively small cost, the only machinery required being to adapt the openings for the bolts Y, and to punch the holes x and y Figs. 4 and 5.

It will also be seen that in substituting the improved metallic tie for the ordinary wooden ties, the old ties removed from the track may be utilized by cutting them up into small lengths to constitute the blocks B.

It will further be seen that all of the parts in the improved structure are absolutely locked together, that a most effective bearing is secured for the side thrust of the rails, and positively preventing spreading of rails, and that when the tie in all of its parts is embedded in the ordinary ballast the latter tends to prevent the bolts 7 and the nuts of the bolts 6 from turning, so that there is no danger of displacement. The construction also gives the tie more weight to prevent creepings, etc.

It will further be evident that with a structure of the character described, if the blocks should become inelastic or rot, they can be replaced without the employment of experts, as any laborer can, after the removal of the ballast, which it will be understood fills the space between the flanges 2, withdraw the bolts and spike, knock the block out of place and replace it by a new one, and reinsert the bolts and spikes, so that keeping the road bed entire and without disturbing the surface of track is comparatively inexpensive.

In some situations it is desirable to have a greater support against the side thrust upon the rail, as for instance at curves, and to this end the clamps C may be provided with upturned lips 9 adapted to bear against the side of the rail and overlap the lower flange thereon, see Fig. 5.

Without limiting myself to the precise construction and arrangement of parts shown, I claim as my invention:

1. The combination in a rail tie of a continuous plate having side flanges 2, 2, separated clamps C, C, adapted to receive the rail between them and provided with openings for the passage of transverse bolts, a block B lying between the flanges 2, 2, extending beneath the clamps C, C, and secured by the bolts thereto, and plates 3 affording extended bearings for the rails and resting upon the faces of the blocks.
2. The combination with a flanged tie A, of separated blocks, each fitting between the said flanges and extending to the tops thereof, a plate bearing upon the face of

each block and narrower than the latter, and supported clamp plates C, C, adapted to receive the rail between them, and each bearing upon the said plate, and means for connecting the clamp plates and blocks together.

- 5 3. The combination of the flanged tie A and blocks B, B, of plates resting upon the blocks and having openings *x* and separated flanged clamps C, bolts connecting the said clamps to the tie plate and block, and recesses *y* in the clamps coinciding with the recesses in the plates 3,
- 10 for the purpose set forth.

4. The combination with the flanged tie A, its blocks and plates 3, of separated clamp plates, the outer clamp plates provided with lips 9, for the purpose set forth.

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

WILLIAM McCLOY.

Witnesses:

C. T. BROWN,

E. M. BURGAN.