W. S. LOGAN.

RAILROAD TIE.

APPLICATION FILED SEPT. 1, 1908.

917,628. Patented Apr. 6, 1909.

Fig. 1.

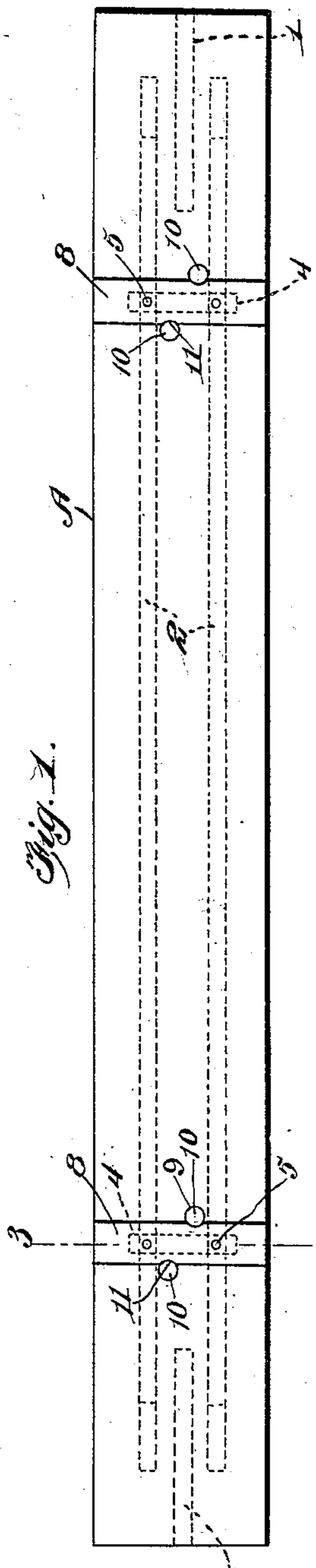


Fig. 2.

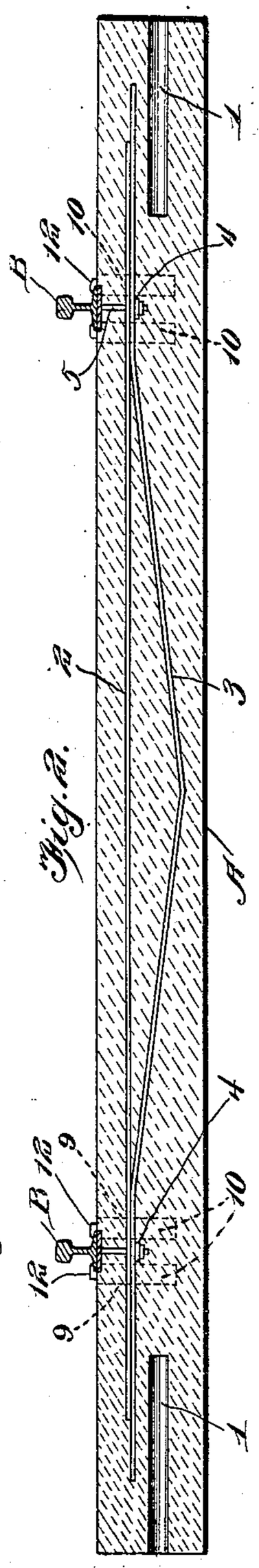


Fig. 4.

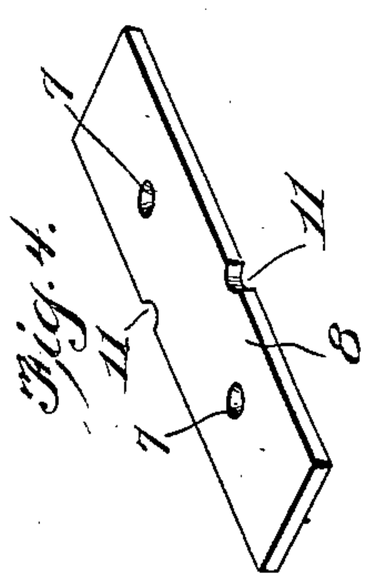
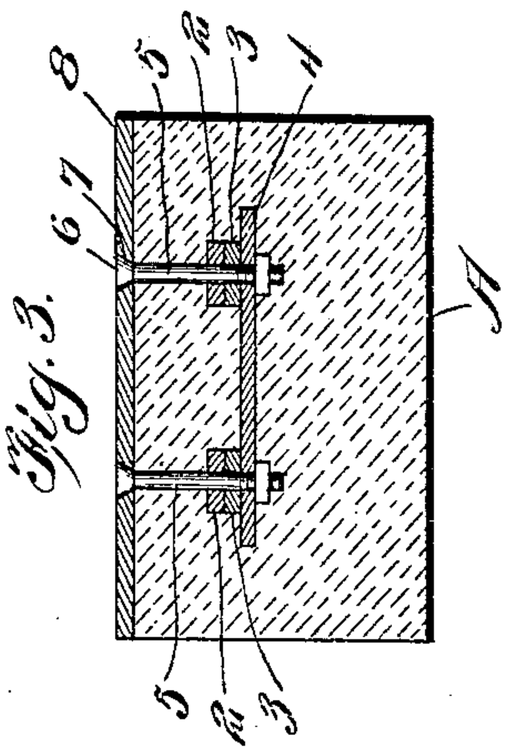


Fig. 3.



Witnesses

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RAILROAD-TIE.

No. 917,628. Specification of Letters Patent. Patented April 6, 1909.

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To all whom it may concern:

Be it known that I, WALTER S. LOGAN, a citizen of the United States, residing at Douglas, in the county of Converse and State of Wyoming, have invented new and useful Improvements in Railroad-Ties, of which the following is a specification.

This invention relates to railroad ties made of plastic material such as concrete or cement reinforced by metal.

The invention has for one of its objects to improve and simplify the construction of cross ties for railroad tracks whereby the rails can be securely fastened in place and readily removed in repairing the track, and which possesses great strength and durability.

Another object of the invention is the provision of a concrete tie having metal reinforcing strips secured together and transverse plates secured to the strips for supporting the rails so as to prevent the shocks and blows from shattering the concrete, the tie having sockets in which are arranged wooden plugs for receiving the spikes that fasten the rails to the ties.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one of the embodiments of the invention, Figure 1 is a plan view of the tie. Fig. 2 is a central longitudinal section thereof. Fig. 3 is a vertical transverse section on line 3—3, Fig. 1. Fig. 4 is a perspective view of one of the rail-supporting plates.

Similar reference characters are employed to designate corresponding parts throughout the views.

Referring to the drawing, A designates the concrete body of the tie which is formed in a suitable mold and provided at its end with horizontal openings 1 for the reception of the handles or other suitable means, whereby the workman can conveniently pick up the ties and place them in position in the laying of the track. Embedded in the tie is a metal structure reinforce which consists of two sets of strips extending longitudinally of the tie, the upper strip or bar 2 being straight and the lower strip or bar 3 being bowed downwardly to form a truss-like structure, the strips being arranged with their ends together adjacent the extremities of the tie. The two sets are disposed parallel with each other and embedded in the body of the tie are transverse pieces 4 on which the lower bars rest. The bars and cross pieces are apertured for receiving bolts 5 that have their heads 6 disposed in countersunk openings 7 in the rail-supporting plates 8. The plates 8 extend transversely to the tie and are set into the top surface thereof so as to be flush therewith. These plates are permanently secured to the tie by the embedded reinforce in the body thereof.

Molded in the tie at opposite sides of the plates 8 are vertical sockets 9 in which are driven wooden plugs 10, and the supporting plates 8 are provided with notches 11 at opposite sides to register with the sockets 10. The rail B rests directly on the plates 8 and the bases of the rails are of the same width as the plates which thus protects the concrete from wearing away by the vibration of the rails as the trains pass thereover. The rails are secured to the ties by spikes 12 that are driven into the wooden plugs 10 and the spikes cause the plugs to expand and snugly fit in the socket so that the spikes and plugs will be firmly held in place. The bases of the rails extend over the notches 11 so that the plugs cannot work out of the sockets. By employing the wooden plugs, the tie is in no way injured in taking up the rails and replacing them when the track is repaired, since the spikes can be readily withdrawn and new plugs substituted if necessary. This means that the tie can be used indefinitely and the only parts that need renewal are the wooden plugs which hold the spikes.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what I claim is:—

1. A reinforce for concrete ties comprising two pairs of longitudinally-extending bars,

one bar of each pair being straight and the other bar having its central portion bowed away from the straight bar and arranged with the ends of the bars in contact, connecting plates extending across both pairs of bars at the ends thereof, bolts passing through the plates and bars, and rail-supporting plates disposed above the connecting plates and held in place by the bolts.

2. A tie comprising a concrete body; a metal reinforcing structure therefor consisting of a plurality of pairs of bars extending longitudinally of the said body, each pair comprising a straight bar and a bowed bar having their ends in contact, connecting plates extending across all the bars adjacent the ends thereof, and bolts extending through the bars and connecting plates for fastening the same together; rail-supporting plates set into the top surface of the concrete body, said body being formed with sockets at opposite sides of the rail-supporting plates, and plugs fitted in the sockets for receiving rail-holding spikes.

3. A cross tie comprising a body of plastic material, longitudinally-extending bars embedded therein, cross pieces disposed under the bars adjacent the ends thereof, bolts passing through the cross pieces and bars and extending upwardly to the top of the tie, plates extending transversely to and set into the top of the tie and having countersunk openings for receiving the heads of the bolts, said plates having notches in the side edges thereof, sockets in the tie registering with the notches, and plugs disposed in the sockets and having their upper ends flush with the top faces of the plate and tie.

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

WALTER S. LOGAN.

Witnesses:

WALTER S. HURLBUT,

JNO. MCNAMARA.