

H. S. RICE.

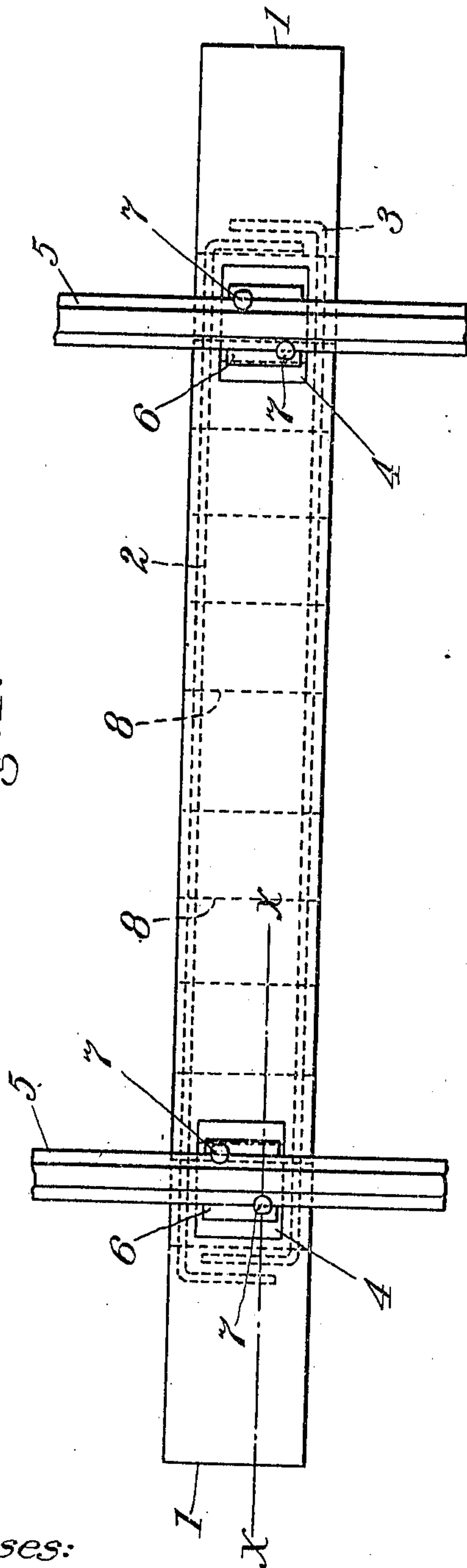
RAILWAY TIE.

APPLICATION FILED DEC. 28, 1908.

954,345.

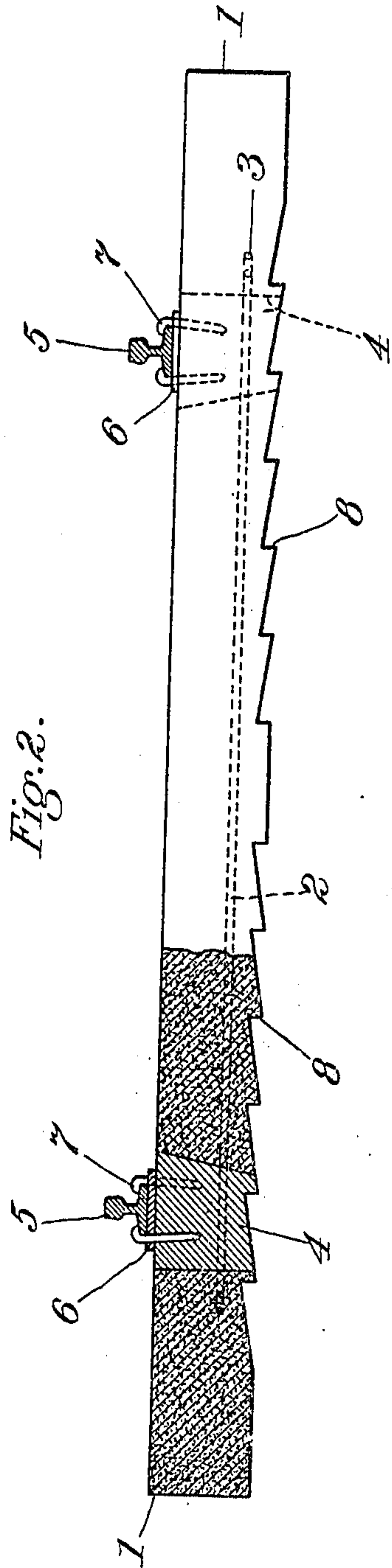
Patented Apr. 5, 1910.

Fig. 1.



Witnesses:  
A. G. Sullivan.  
H. M. Sullivan.

Fig. 2.



Inventor:  
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# UNITED STATES PATENT OFFICE.

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## RAILWAY-TIE.

954,345.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed December 28, 1908. Serial No. 469,672.

*To all whom it may concern:*

Be it known that I, HERBERT S. RICE, a citizen of the United States, residing at North Brookfield, in the county of Worcester and State of Massachusetts, have invented new and useful Improvements in Railway-Ties, of which the following is a specification.

My invention relates to certain improvements in the construction of railroad ties or sleepers, formed of concrete, artificial stone or similar substances.

The object of my invention is to provide particular means of reinforcing the concrete tie, of securing the rail thereto, and for preventing the tie from creeping or sliding endwise.

Referring to the drawing containing an illustration of my invention, Figure 1 represents a plan, and Fig. 2 a side elevation partly in section through the line X—X.

Similar numerals represent corresponding parts in the figures of the drawing.

1 is a railroad tie of usual dimensions, composed of concrete, asphalt or similar material; 2 and 3 are iron or steel rods, approximately one-half inch in diameter, and having right angle bends at their extremities. These rods are embedded in the tie when the same is cast, are provided for the purpose of reinforcing or strengthening the tie or sleeper, are located, as shown in Fig. 1, in substantially the same horizontal plane, and are duplicates of each other.

4 is a wedge shaped block of resilient material, preferably of wood, inserted in the tie and extending entirely through the same, on which the rail 5 is supported, and to which it is secured by means of the plate 6 and spikes 7. The block 4 is inclined downwardly and outwardly on its inner face, and is suitably treated to withstand the effects of moisture.

The bottom of the tie is provided with teeth or serrations 8, which are inclined in different directions on opposite ends of the tie. I have shown all the teeth at the left of the center of the tie inclined in one direction, and all the teeth at the right of the center inclined in the opposite direction. I prefer this construction, but do not limit my invention to the same for the reason that one or more teeth on each side of the center of

the tie inclined in opposite directions will be within the scope of my invention. By means of arranging the inclination of the teeth in opposite directions, as described, when the same are embedded in the ballast, the tie is prevented from creeping or sliding endwise in either direction.

I have discovered that a tie made of concrete will sustain a great weight which has a tendency to compress it, but will endure comparatively but little tensile strain. Having these qualities of the concrete tie in view I have constructed the block 4 of the particular shape shown and described, so that the load carried on the track will tend, by reason of the direction in which the blocks are inclined, to compress the main part or body of the tie, whereby I take advantage of the strength of the tie to resist compression and relieve it of the tensile strain.

I am aware that railroad ties have heretofore been made of concrete, and similar material, and provided with blocks of wood inserted therein, that they have been reinforced by rods embedded therein, and have been corrugated on the under side, and I limit my invention to the particular construction of the parts selected by me, and herein shown and described.

What I claim and desire to secure by Letters Patent is:—

A railway tie composed of concrete, having a block of wood inserted near each end thereof and extending vertically entirely through said tie, said block being inclined downwardly and toward the adjacent end of the tie on its inner face, combined with reinforcing rods embedded in said tie, said rods being bent at right angles near their extremities, and being located in substantially the same horizontal plane, said tie having its under side formed with a serrated surface comprising straight inclinations, the inclinations of certain of said serrations being directed oppositely to the inclinations of others.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses, this 23rd day of December 1908.

HERBERT S. RICE.

Witnesses:

CHAS. E. BATCHELLER,  
EDWARD REVANE.