

No. 747,804.

PATENTED DEC. 22, 1903.

H. F. THOMPSON.  
RAILROAD TIE.

APPLICATION FILED APR. 13, 1903.

NO MODEL.

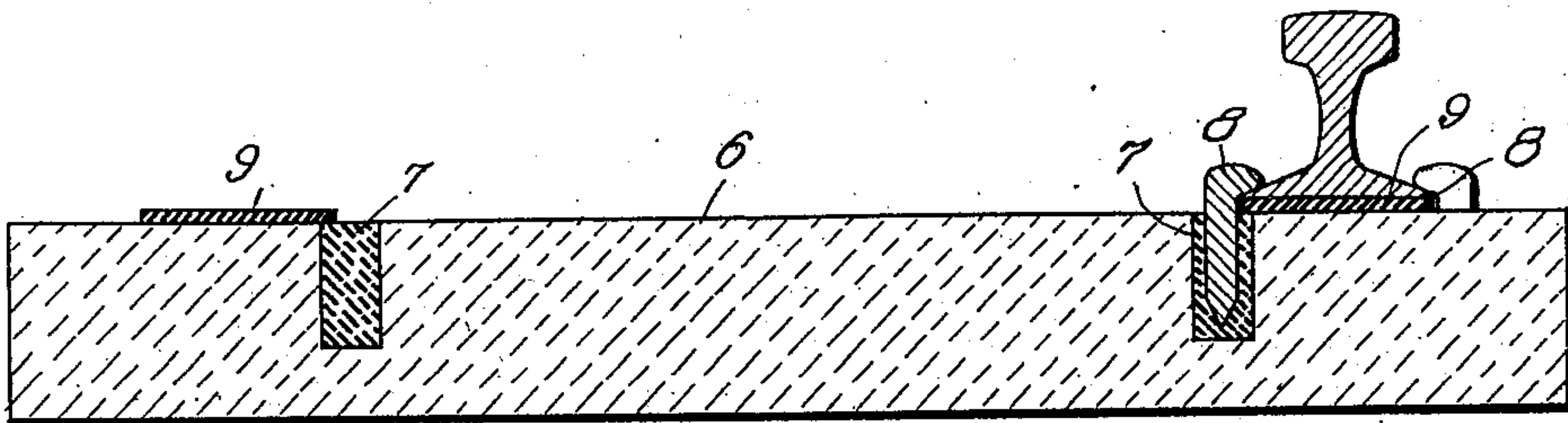


Fig. 1.

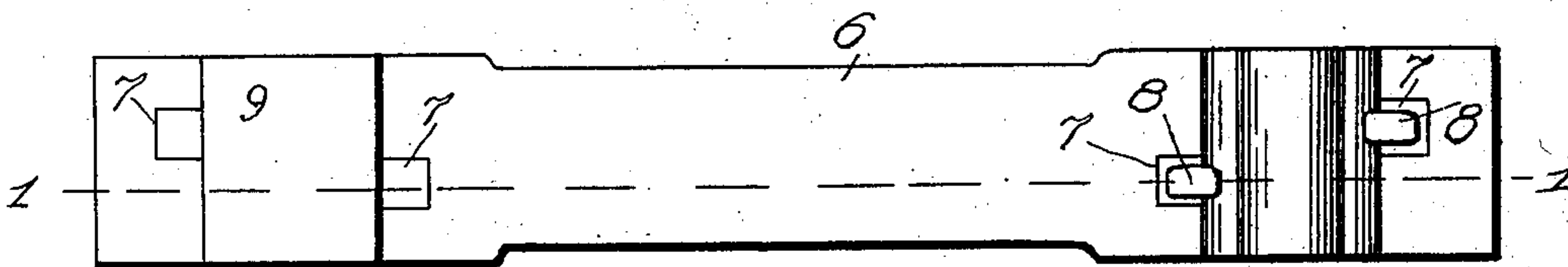


Fig. 2.

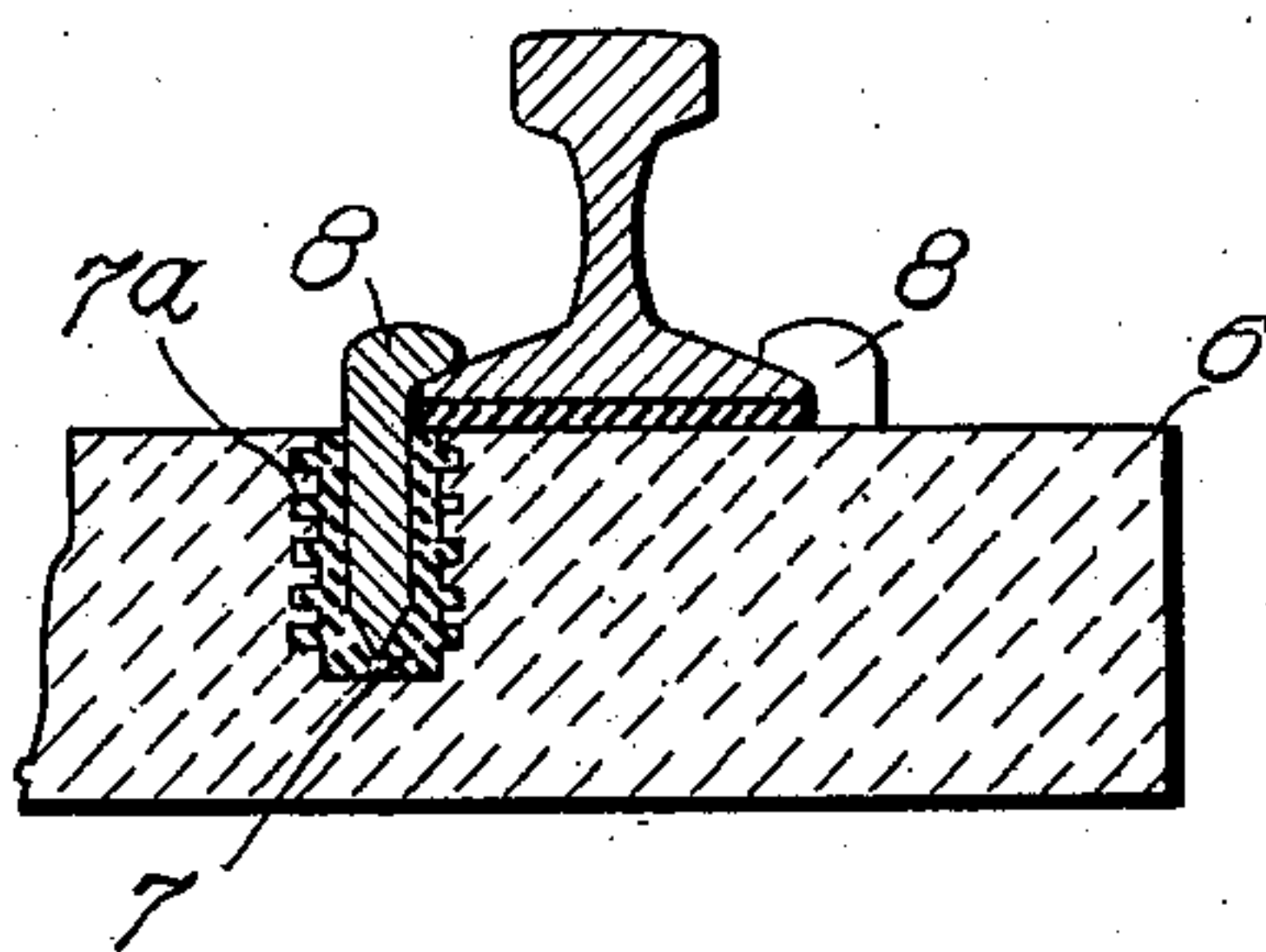


Fig. 3.

Witnesses  
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# UNITED STATES PATENT OFFICE.

HARRY F. THOMPSON, OF MOSCOW, MICHIGAN.

## RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 747,804, dated December 22, 1903.

Application filed April 13, 1903. Serial No. 152,382. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY F. THOMPSON, a citizen of the United States, residing at Moscow, in the county of Hillsdale and State of Michigan, have invented certain new and useful Improvements in Railroad-Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to railroad-ties, and comprises particularly means for fastening the rail to a composition tie and for supporting a rail upon such a tie without danger of breaking the tie.

Considerable difficulty is met in fastening steel rails to cement and other composition ties by means of spikes because of the liability that the spikes will crack the ties. Furthermore, contact of the rail with such a tie is apt to break or crumble the same and afford an unstable support.

My invention includes the use of a composition for holding the spikes in the cement tie without danger of cracking the latter and also for insertion between the rails and the top of the tie to prevent the crumbling referred to.

In the accompanying drawings, Figure 1 is a longitudinal vertical section of a tie, showing my invention. Fig. 2 is a plan view thereof, and Fig. 3 is a section of a modification.

In the drawings, 6 indicates a composition tie, made of cement or similar material. Spike-holes are cast in this tie, and the holes are lined with a composition, as indicated at 7, and when the spike 8 is driven in it is firmly held thereby. This composition consists of a mixture of rubber, felt, and asbestos and when applied is sufficiently elastic to hold the spike firmly in the tie. It accommodates itself to the shape of the spike and prevents the cement from breaking as the spike is driven into it. The composition acts as an

elastic cement to join the tie and spikes together.

As a cushion for the tie I use a plate of the same composition as indicated at 9, which is inserted between the rail and the tie. It produces a durable cushion which absorbs the jar of passing trains and prevents disintegration of the tie at the rails.

The invention overcomes the difficulty heretofore experienced of driving spikes into the cement ties and also avoids destruction of the ties from the jar of the trains.

In the modified form shown in Fig. 3 the rubber lining in the spike-hole is ribbed or corrugated, as at 7<sup>a</sup>, so that the lining will not come out. In making this form the corrugated lining is first molded in the desired shape, and it is then suspended in the mold in which the tie is cast. The cement is then poured in the mold and is cast around the composition linings.

My invention is not limited to the composition specified, but embodies the use of any suitable elastic composition in the manner specified.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a composition tie, of an elastic plastic lining for the spike-holes in the tie.

2. A composition tie having a lining in the spike-holes of rubber and fibrous material.

3. A composition tie having in the spike-holes thereof a lining of rubber, felt and asbestos.

4. The combination with a composition tie, of a rail-plate thereon made of rubber, felt and asbestos.

5. The combination with a composition tie, of an elastic plastic lining in the spike-holes in the tie, having projections engaging with the tie.

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

HARRY F. THOMPSON.

Witnesses:

RENA B. THOMPSON,  
MARY E. THOMPSON.