No. 742,307. PATENTED OCT. 27, 1903.

O. GERLACH & M. H. HAMMOND.

RAILWAY TIE.

APPLICATION FILED FEB. 2, 1903.

NO MODEL.

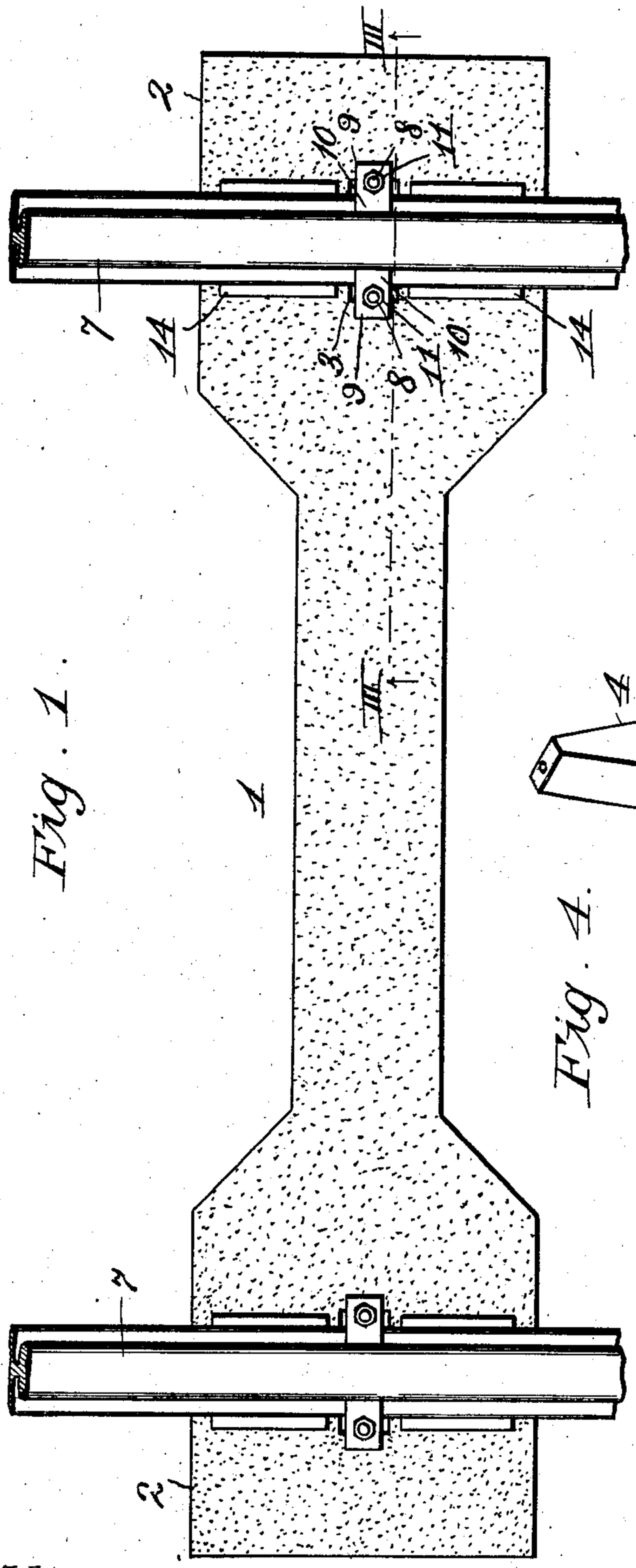

Fig. 1.

Fig. 4.

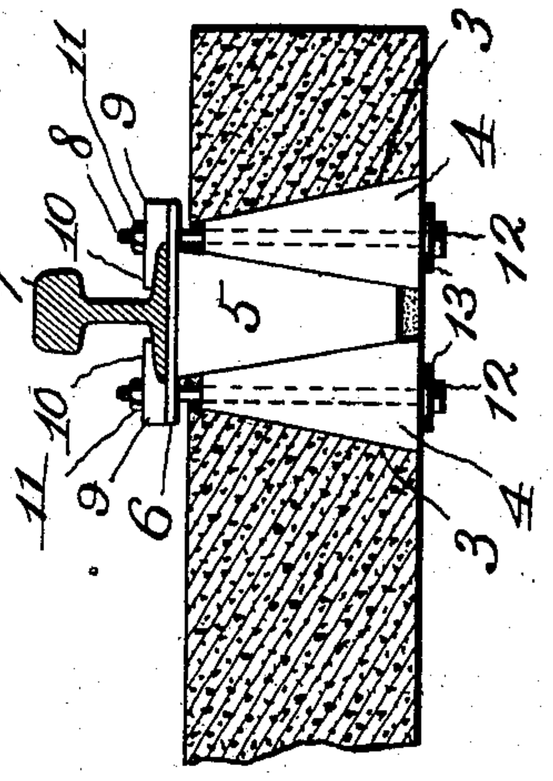

Fig. 3.

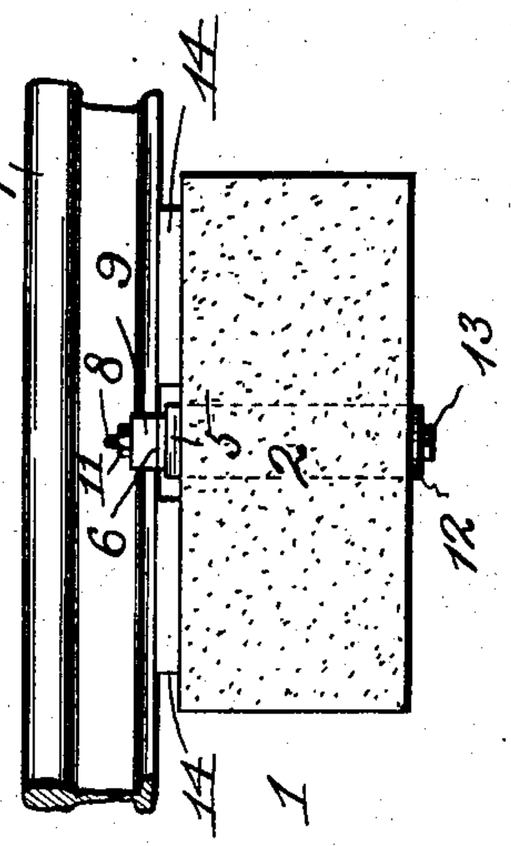

Fig. 2.

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No. 742,307. Patented October 27, 1903.

UNITED STATES PATENT OFFICE.

OSCAR GERLACH AND MYRAM HANCE HAMMOND, OF IOLA, KANSAS.

RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 742,307, dated October 27, 1903.

Application filed February 2, 1903. Serial No. 141,616. (No model.)

To all whom it may concern:

Be it known that we, OSCAR GERLACH, a citizen of the German Empire, and MYRAM HANCE HAMMOND, a citizen of the United States, residing at Iola, in the county of Allen and State of Kansas, have invented certain new and useful Improvements in Railway-Ties, of which the following is a specification.

Our invention relates to improvements in railway-ties, and one of our objects is to provide a tie of comparatively non-elastic but exceedingly strong and durable material—such, for instance, as concrete—with a more elastic material, such as wood, for supporting the rails above the tie to absorb the vibrations to which they are subjected.

A further object is to have the elastic material separable from the other in order that it may be repaired or renewed without disturbing the tie.

The invention may be said to consist in the novel arrangement and combination of parts hereinafter described, and more particularly pointed out in the claims.

In the accompanying drawings, which illustrate the invention, Figure 1 represents a plan view of our improved tie. Fig. 2 is an end view of the same. Fig. 3 is a broken longitudinal sectional view taken on line III III of Fig. 1. Fig. 4 is a detail perspective view of one of the wedges employed for securing the rail to the tie.

In carrying out the invention we employ a tie 1, which is preferably composed of concrete and provided with enlarged end portions 2 to add to the strength of the tie at these points and also provide a wide foundation for the rails. The central portions of the enlarged ends of the tie are provided with longitudinal dovetail apertures 3, the reduced ends of which are upwardly disposed in order to retain in position a pair of oppositely-disposed inverted wedges 4, the outer sides of which are held in contact with the sloping sides of their respective aperture by means of an intermediate wedge 5, which is forced down between the inverted wedges by means hereinafter described. The above wedges consist, preferably, of wood or similar material in order to provide an elastic bearing for the rails.

6 indicates a metallic transverse plate, which is supported a suitable distance above the upper surface of the tie by wedge 5 to receive the base of rail 7, beyond the sides of which the plate extends in order to receive the bolts 8, extending upwardly through the central portions of wedges 4 and terminating a suitable distance above clamps 9, provided with inner ends 10, overlapping the base of the rail, against which they are tightly drawn by taps 11, engaging the upper threaded ends of the tie-bolts, which latter are provided at their opposite ends with heads 12, which draw washers 13 tightly against the base of the inverted wedges, and thus rigidly secure the several parts together.

Wedges 5 are relieved of the greater portion of the load on the rails by bearing-blocks 14, interposed between the upper surface of the tie and the base of the rail at opposite sides of the wedges 5, and are preferably composed of wood in order to form an elastic support for the rails. Should it become necessary to repair or replace any of the parts, this may be readily accomplished without disturbing the tie by simply removing the taps from the tie-bolts 8, when the rail may be removed and access had to the inverted wedges by removing wedge 5.

From the above description it is apparent that we have produced a railway-tie and rail-fastener which may be manufactured cheaply and maintained at a very low cost owing to the very small amount of perishable material employed.

Having thus described the invention, what we claim, and desire to secure by Letters Patent, is—

1. A railway-tie composed of non-elastic material, elastic blocks removably secured to the opposite ends thereof, suitable means for securing the rails to the blocks, and elastic supports adapted to assist the elastic blocks to support the rails and their load, substantially as described.

2. A railway-tie composed of suitable material and provided with dovetail apertures in its opposite ends, blocks removably secured therein, and adapted to support the rails above the tie, and suitable means for securing the rails upon said blocks, substantially as described.

3. A railway-tie provided at its opposite

ends with dovetail apertures, inverted wedges located therein, an intermediate wedge for forcing the inverted wedges against the diverging sides of the apertures and adapted to support the rail above the surface of the tie, means for securing the rail upon the intermediate wedge, and bearing-blocks interposed between the tie and the rail, substantially as described.

4. A railway-tie provided at its opposite ends with dovetail apertures, inverted wedges located therein, an intermediate wedge adapted to force the inverted wedges against the diverging sides of the apertures, tie-bolts extending upwardly through the inverted wedges, clamps adapted to engage the flanges of the rail and through which the bolts extend, and taps for drawing the clamps down tightly upon the flanges of the rail, substantially as described.

5. A railway-tie provided with dovetail apertures at its opposite ends, inverted wedges located in each aperture, an intermediate wedge adapted to force the inverted wedges in contact with the diverging sides of the aperture, a metallic plate resting upon the intermediate wedge to receive the base of the rail, clamps engaging the flanges of the rail, tie-bolts extending through the inverted wedges, metallic plate and clamps, taps for securing the whole together, and bearing-blocks of elastic material interposed between the upper surface of the tie and the base of the rail, substantially as described.

6. A railway-tie composed of suitable material, a pair of blocks located in each end of the tie, an intermediate block adapted to secure each pair of blocks in the tie and support the rails, clamps for engaging the upper surface of the rail-flange, and tie-bolts which extend through each pair of blocks and the clamps, for the purpose of securing them together, substantially as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

OSCAR GERLACH.
MYRAM HANCE HAMMOND.

Witnesses:
C. N. PETERS,
G. O. CURTIS.