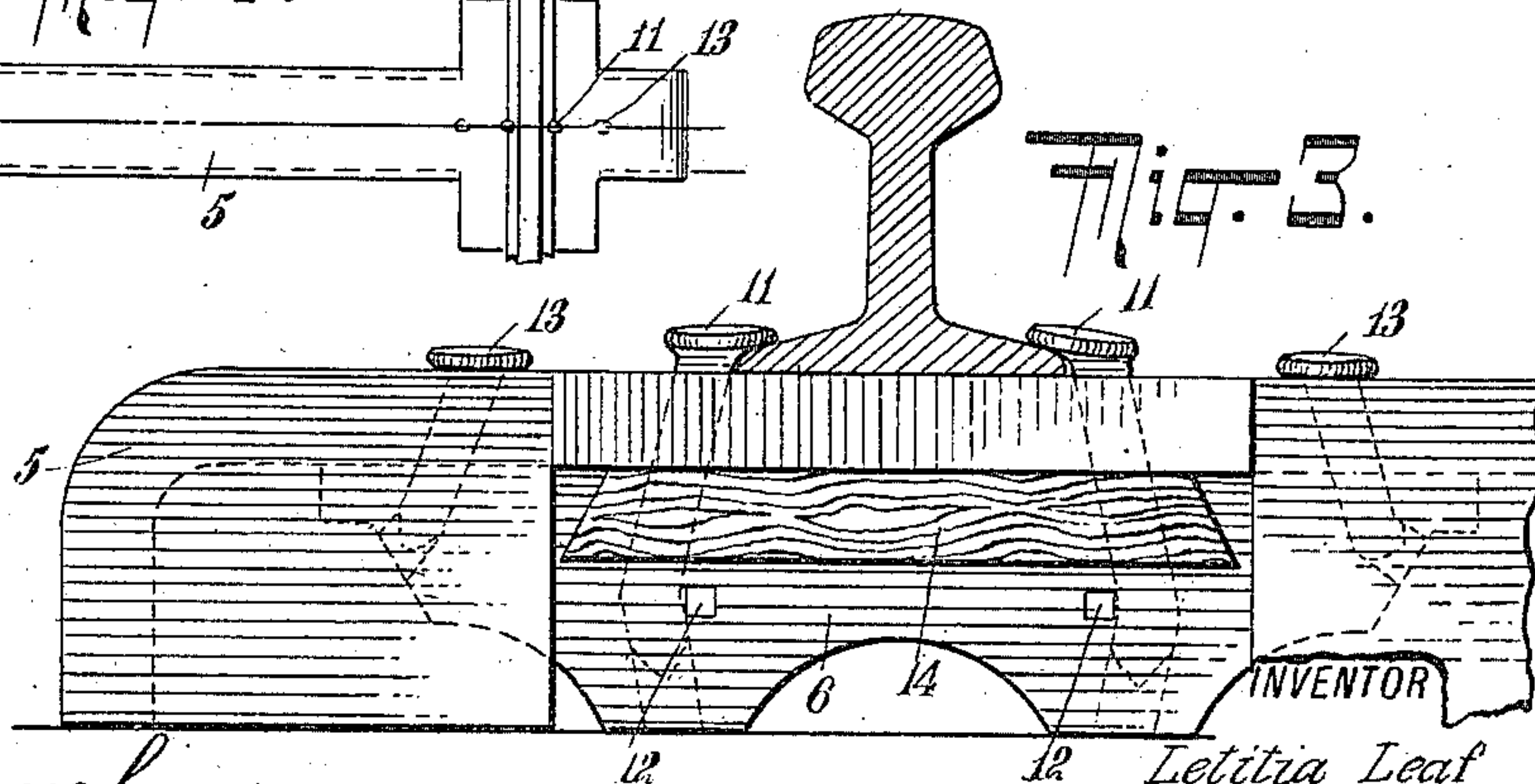
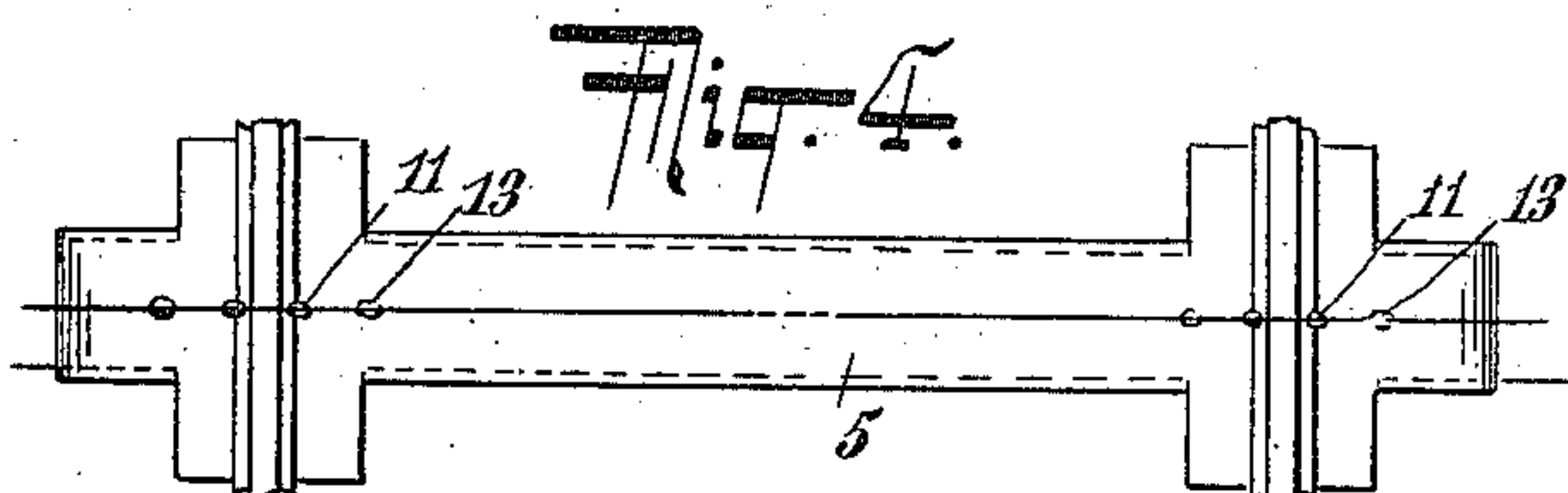
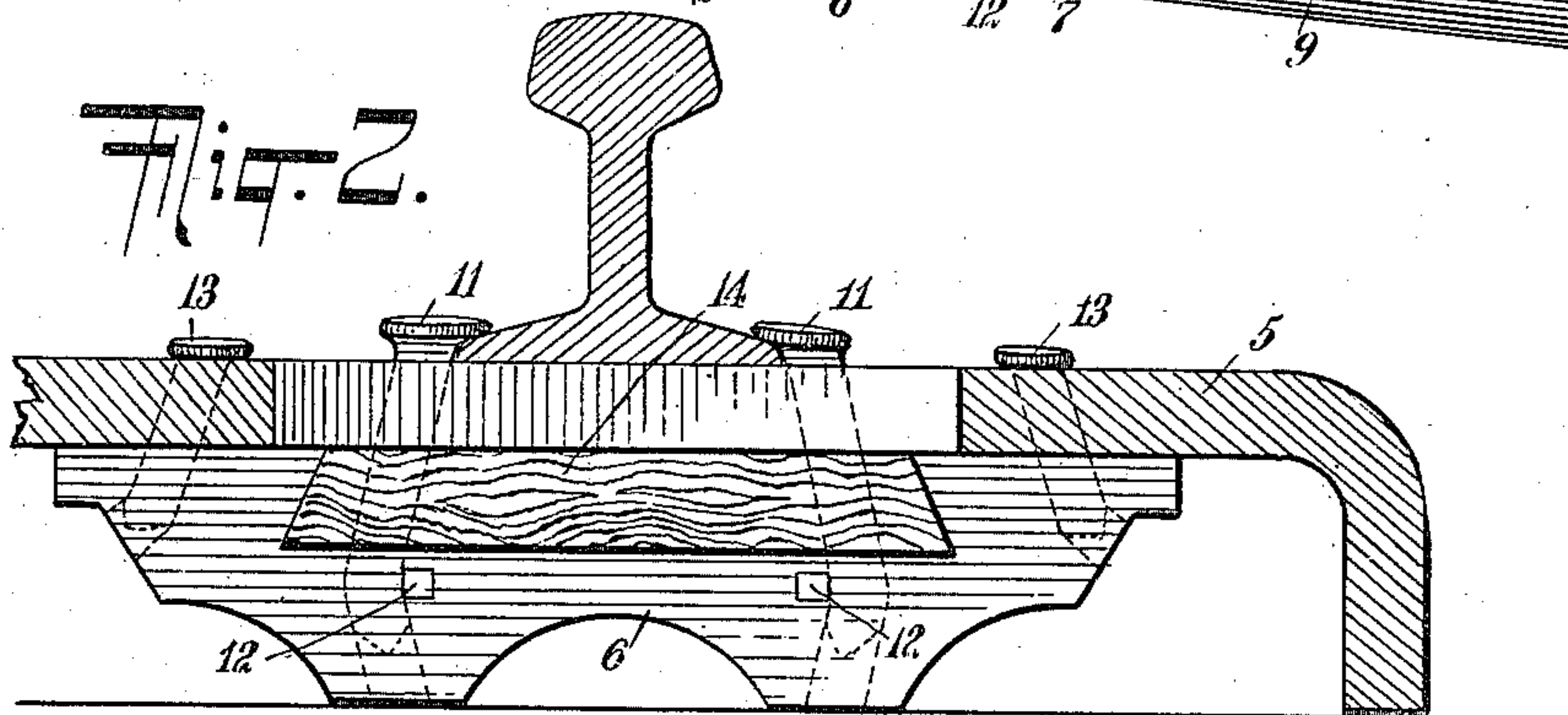
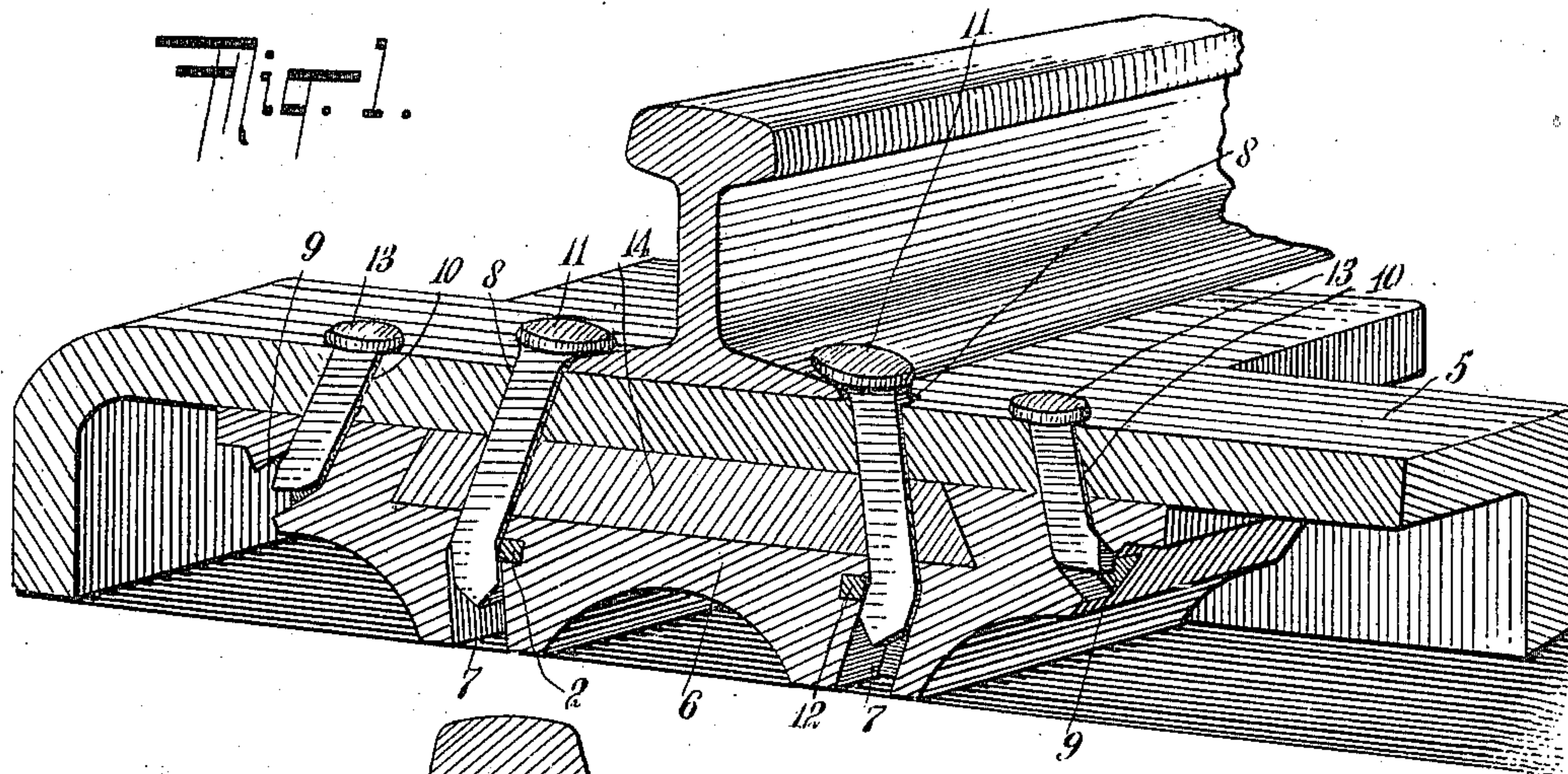


L. LEAF.
METALLIC RAIL FASTENER.
APPLICATION FILED MAR. 31, 1910.

975,878.

Patented Nov. 15, 1910.



WITNESSES

George Bamby
[Signature]

INVENTOR

BY Letitia Leaf
[Signature]
ATTORNEYS

UNITED STATES PATENT OFFICE.

LETITIA LEAF, OF FINDLAY, OHIO.

METALLIC RAIL-FASTENER.

975,878.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Application filed March 31, 1910. Serial No. 552,562.

To all whom it may concern:

Be it known that I, LETITIA LEAF, a citizen of the United States, and a resident of Findlay, in the county of Hancock and State of Ohio, have invented a new and Improved Metallic Rail-Fastener, of which the following is a full, clear, and exact description.

The invention is an improvement in metallic rail fastenings of the character disclosed in Letters Patent Number 930,322, granted to Herman Staadt, August 3, 1909, wherein a metallic tie of hollow or channeled construction contains under each rail a metallic supporting block, the block having angular openings alining with the apertures in the tie, into which are driven the spikes securing the rails.

The present invention has for its purpose to deaden the shock and vibration incident to the wheels of the rolling stock, by interposing between the metallic supporting block and tie a block of wood or other suitable sound-deadening material, the wooden block being preferably let into a groove formed in the upper face of the block and extending lengthwise of the rail, and the angular spike openings being partly formed in the block, which prevents the spikes from becoming loose by the expansion and contraction of the metal.

The invention further contemplates the fastening of the supporting blocks to the tie in a manner similar to the fastening of the rails to the tie, and the extension of those portions of the side flanges of the tie opposite the block along the base flanges of the rails, so that the tie presents a substantial seating surface for the rails and permits of the removal and replacement of the blocks without removing the tie.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a fragmentary perspective view, partly in longitudinal section, of a metallic rail fastening applied to the rail, constructed in accordance with my invention; Fig. 2 is a cross-section through an end portion of the fastening; Fig. 3 is a side view of a portion of the fastening with the rail applied; and Fig. 4 is a plan of the tie complete, as applied to the rails.

The tie 5, forming a feature of my improved rail fastening, is constructed of

metal and is in the form of an inverted channel. Within the tie under each rail is a metallic supporting block 6, each supporting block having spike openings 7, arranged to register with apertures 8, formed in the tie adjacent to each side of the base flange of the rail, the apertures and spike openings diverging downwardly to points intermediate the thickness of the blocks, at which points the openings are angularly turned and converge in a downward direction, as in the patented rail fastening above referred to. At the outer side of the spike openings 7 the supporting block is further provided with spike openings 9, which aline with apertures 10, formed in the tie, the said apertures and openings diverging downwardly to points intermediate the thickness of the block, at which points the openings angularly turn outwardly. Within the openings 7 and apertures 8 are driven spikes 11, which secure the rails to the tie, and are of sufficient length for their points to extend beyond the angles of the spike openings, so that the spikes will be prevented from working up or being withdrawn after they are fully driven to place. These spikes are further secured by keys 12, driven into grooves of the block crosswise of the tie adjacent to the angles of the spike openings. In the spike openings 9 and apertures 10 are driven relatively shorter spikes 13, likewise extending beyond the angles of the spike openings when they are driven to place, and securing the supporting blocks to the tie. Interposed between the supporting blocks and the tie are blocks 14, of wood or other sound-deadening material, the blocks being preferably located within grooves formed in the upper faces of the supporting blocks and extending longitudinally of the rails, the grooves being dovetailed or undercut to prevent the sound-deadening block from being vertically separated from the supporting block. The sound-deadening blocks are preferably chemically treated in order to preserve them from decaying, and are of sufficient width to extend substantially beyond the spikes 11, so that the upper portions of the spike openings 7 are formed therein, which to an extent prevents the spike from becoming loose by the expansion of the metal, and further renders the supporting blocks less liable to be cracked by frost. Those portions of the side flanges of the channeled tie opposite the cushion or

sound-deadening blocks, are cut out and turned upwardly in a plane with the upper face of the tie, whereby they substantially increase the bearing surface afforded by the tie to the rails, and permit of the cushion blocks being removed and renewed and replaced without removing the tie.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a metallic rail fastening, an inverted channeled tie having spike apertures arranged to lie at each side of the base flange of the rail, supporting blocks having recesses in their upper faces and provided with spike openings adapted to register with said apertures, each spike opening having an angle in its length, and sound-deadening blocks arranged in the recesses of the blocks and through which the angular spike openings pass.

2. In a metallic rail fastening, an inverted channeled tie having spike apertures arranged to lie at each side of the base flange of the rail, supporting blocks having spike openings adapted to register with said apertures, each spike opening having an angle in its length, and sound-deadening blocks arranged in grooves extending longitudinally of the rails, formed in the upper faces of the supporting blocks.

3. The combination of a channeled rail-

way tie having downwardly-turned side flanges, supporting blocks arranged under the tie below the rails, and sound-deadening blocks interposed between the supporting blocks and tie, with those portions of the side flanges of the tie opposite the supporting blocks turned upwardly to the under side of the rails to permit of the removal of the sound-deadening blocks.

4. In a metallic rail fastening, a channeled tie having downwardly-turned side flanges, with portions of said flanges turned upwardly to lie against the under side of the rails, and supporting blocks arranged within the tie adjacent to the upwardly-turned portions of the flanges.

5. The combination of a channeled railway tie having downwardly-turned flanges, a supporting block arranged within the tie under the rail, and a sound-deadening block interposed between the tie and the supporting block, with the portions of the side flanges of the tie opposite the sound-deadening block removed to permit of the removal of the sound-deadening block.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LETITIA LEAF.

Witnesses:

A. B. MANCHESTER,
NIMROD W. BRIGHT.