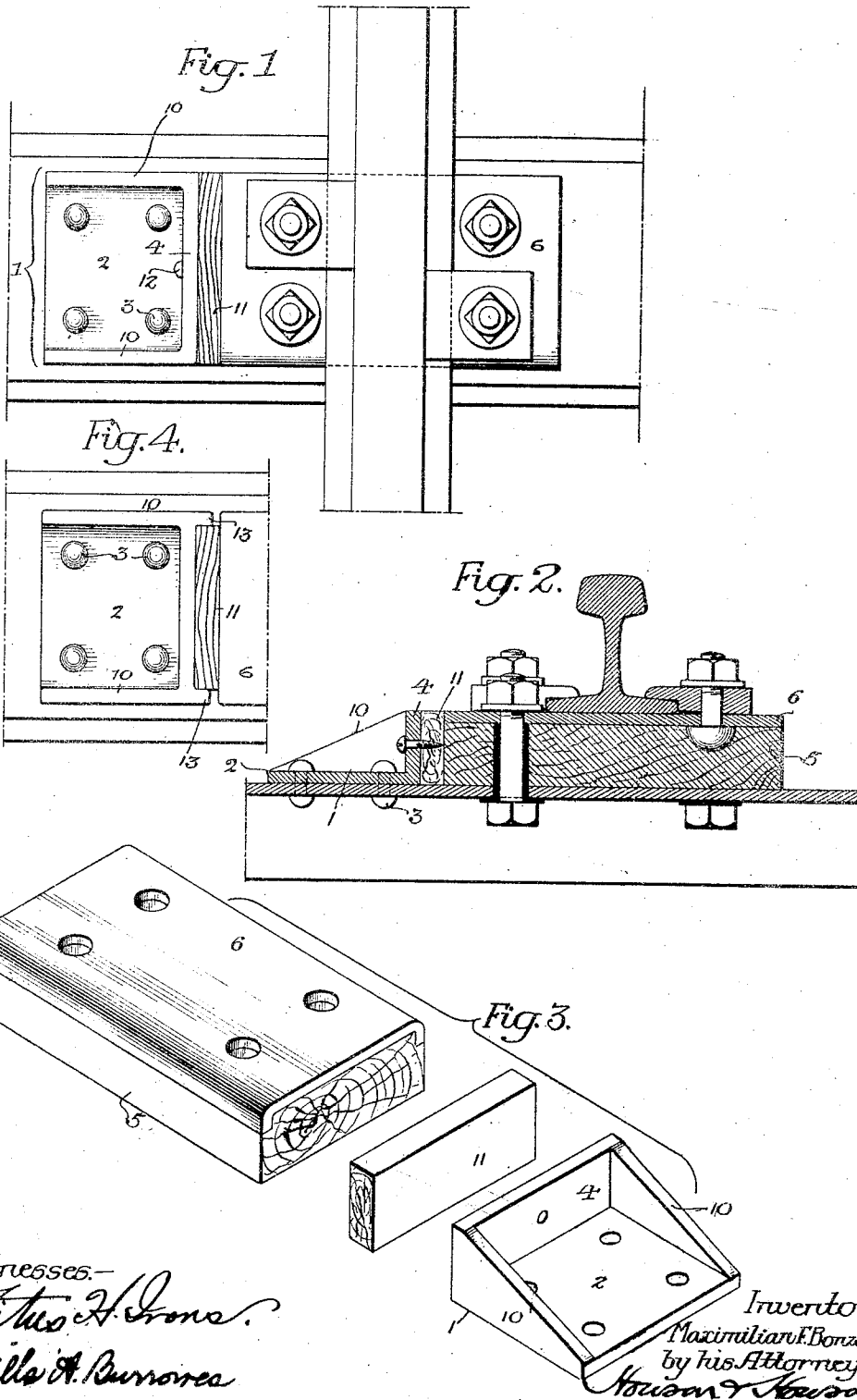


M. F. BONZANO.
BRACE FOR RAIL SUPPORTING MEANS OF METALLIC TIES.
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940,579.

Patented Nov. 16, 1909.



Witnesses—
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UNITED STATES PATENT OFFICE.

MAXIMILIAN F. BONZANO, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO PENN RAILROAD TIE COMPANY, OF CAMDEN, NEW JERSEY, A CORPORATION OF NEW JERSEY.

BRACE FOR RAIL-SUPPORTING MEANS OF METALLIC TIES.

940,579.

Specification of Letters Patent.

Patented Nov. 16, 1909.

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To all whom it may concern:

Be it known that I, MAXIMILIAN F. BONZANO, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Braces for Rail-Supporting Means of Metallic Ties, of which the following is a specification.

My invention relates to railroad construction; and the object of my invention is to provide means for laterally supporting the wooden or other resilient blocks mounted upon metallic ties, and the chafe or wear-plates carried by the same upon which the rails are mounted.

My invention is fully shown in the accompanying drawings, in which:

Figure 1, is a plan view of my improved device; Fig. 2, is a vertical section of the same; Fig. 3, is a perspective view of the elements of the bracing and braced structure detached, and Fig. 4, is a plan view of a portion of the structure illustrating a detail of my invention.

In my prior patents for improvements in metallic ties, I have described and shown the use of a block of wood or other resilient material beneath the rail; such block carrying further a chafe or wear-plate for the rail, such arrangement providing for the distribution of the load and the necessary elasticity or cushioning effect, at the same time insuring against wear of the resilient member. In the constant use of such structure, however, it is possible that the rails might tend to move owing to the distance between the anchorage for the fastening device and the wear-plate, and such danger is naturally augmented on curves. To prevent this, I employ a brace secured directly to the top of the tie, which brace is indicated at 1, having a foot 2 whereby it may be secured to the tie by bolts, rivets or other means, indicated at 3 and a wall 4 which engages the side of a block 5 carrying the wear-plate 6 upon which the rail is mounted. The wall of the brace extends high enough to engage said wear-plate, and this brace is strengthened by means of the angle portions 10, clearly shown in the drawing. If desired, I may place a small piece of wood or other resilient or insulating material 11 between the brace and the block carried by the tie, and as the resilient block is of insulating material and the means for securing it to the tie are insulated from the latter, the rail

may be wholly insulated from the tie. The block 11 of wood or other resilient material, or of insulating material may be held in place by means of a screw, nail or other fastening device as indicated at 12. In lieu of this, the brace may be provided with shoulders 13, as clearly shown in Fig. 4, so as to engage the ends of the block.

The brace may be made of pressed up metal, or may be forged or cast as may be most desirable or convenient. It may also be provided with means to engage or overhang the rail supporting block and chafe or wear-plate, and it may directly engage these parts or a resilient or insulating member disposed between them.

It may be desirable in some instances to secure the brace to the tie in such manner as to relieve the shearing strain upon the bolts, rivets or other means indicated in the drawing as employed for such purpose. For this purpose the brace may engage a shoulder on the tie or have a portion to engage an aperture in the top web of such tie, or any desired coacting means may be employed. Preferably, in all instances, non-conducting material may be employed or combined with the structure to properly insulate the rail from both brace and tie.

I claim:

1. The combination with a metallic tie, of a resilient block supporting the rail, a wear-plate interposed between said rail and block and to which the rail is secured, and a supporting brace for said wear-plate carried by the tie.

2. The combination with a metallic tie having a resilient block supporting a rail, and a wear-plate interposed between said rail and block, of a brace for said wear-plate and block carried by the tie, and a resilient member interposed between said brace and the block and wear-plate.

3. The combination with a metallic tie having a resilient block supporting a wear-plate, and a rail supported on and secured to said wear-plate, of a brace for said wear-plate, and means for securing said brace to the tie.

4. The combination with a metallic tie, of a resilient block supporting the rail, a wear-plate interposed between said rail and block, a brace carried by the tie, and a filling piece interposed between said brace and the block and wear-plate.

5. The combination with a metallic tie having a resilient block supporting a rail, and a wear-plate interposed between said rail and block, of a brace for said wear-plate and block carried by the tie, and a body of insulating material interposed between said brace and the block and wear-plate.

6. The combination with a tie having a supplemental support for a rail, and a metallic plate carried by said support to which the rail is secured, of a supporting brace for said metallic plate carried by the top of the tie.

7. The combination with a metallic tie having a supplemental support for a rail, and a metallic plate carried by said support to which the rail is secured, of a supporting

brace for said metallic plate carried by the top of the tie.

8. The combination with a metallic tie having a supplemental support for a rail, and a metallic plate carried by said support to which the rail is secured, of a supporting brace for said metallic plate carried by the top of the tie, and means for insulating the rail from said brace, support and tie.

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

MAXIMILIAN F. BONZANO.

Witnesses:

MURRAY C. BOYER,
WM. A. BARR.