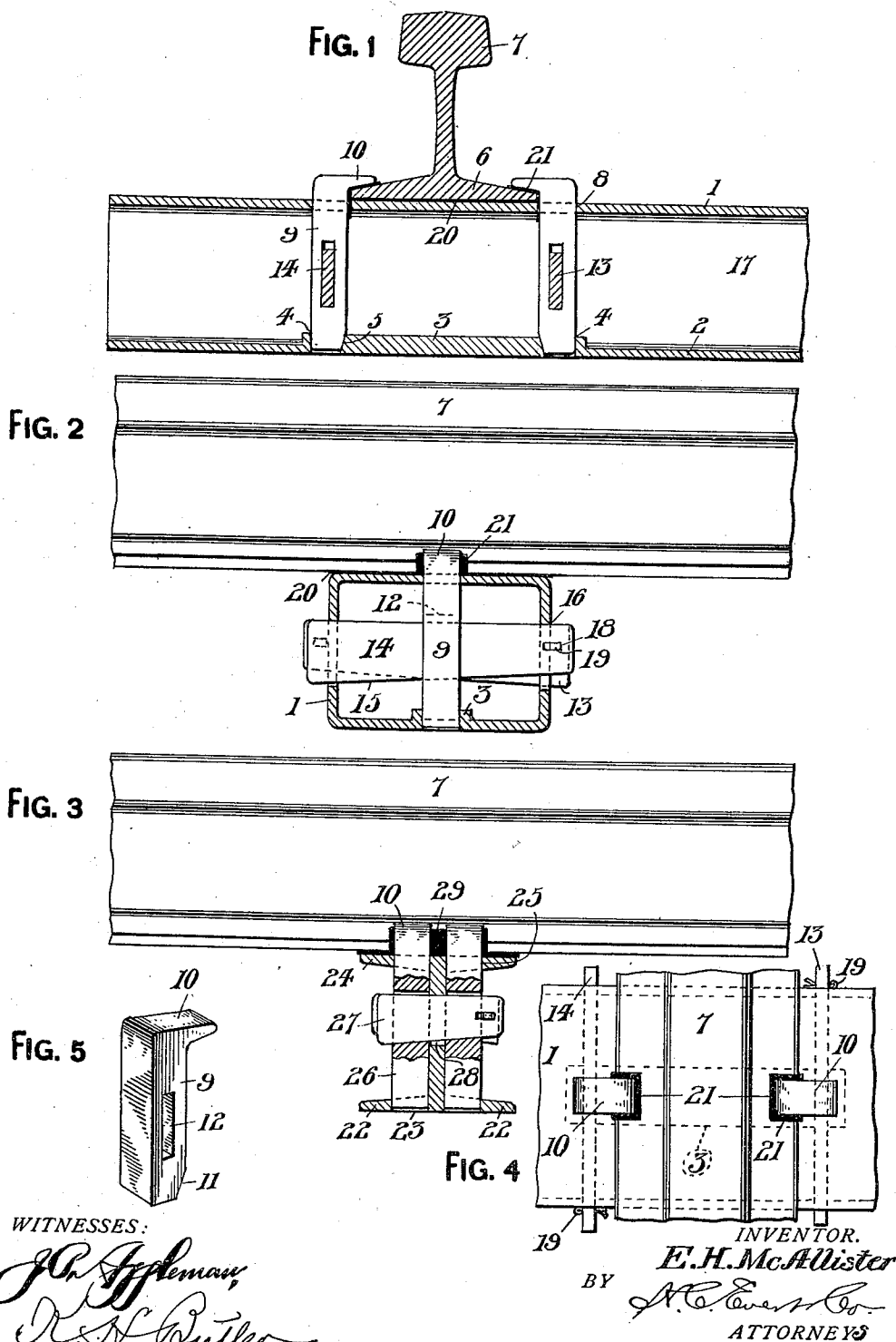


E. H. McALLISTER.
METALLIC TIE AND RAIL FASTENER.
APPLICATION FILED JULY 3, 1911.

1,004,886.

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UNITED STATES PATENT OFFICE.

EDWARD H. McALLISTER, OF KITTANNING, PENNSYLVANIA.

METALLIC TIE AND RAIL-FASTENER.

1,004,886.

Specification of Letters Patent.

Patented Oct. 3, 1911.

Application filed July 3, 1911. Serial No. 636,585.

To all whom it may concern:

Be it known that I, EDWARD H. McALLISTER, a citizen of the United States of America, residing at Kittanning, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to metallic ties and rail fasteners, and the objects of my invention are to provide a tie having a bearing surface possessing the necessary superficial area for the adequate support of rails, and to provide a metallic tie that is extremely light and durable.

Other objects of my invention are to furnish a metallic tie with a fastener that will preserve the alinement and gage of the rails of a track, and to provide a fastener that may be repeatedly adjusted to compensate for wear.

Further objects of my invention are to provide a tie that can be easily installed in a road bed by unskilled labor and to provide a tie which will afford a sure and ready means for attaching rails to the same.

Further objects of my invention are to provide a tie and rail fasteners that will prevent lateral and vertical displacement of rails, and obviate the necessity of using bolts and nuts or similar fastening devices.

With the above and other objects in view, the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing wherein: Figure 1 is a longitudinal sectional view of a portion of a tie in accordance with this invention; Fig. 2 is a cross-sectional view of the same; Fig. 3 is a cross-sectional view of a modified form of tie; Fig. 4 is a plan of a portion of the tie illustrated in Figs. 1 and 2, and Fig. 5 is a perspective view of a detached fastener.

The tie in accordance with this invention comprises an oblong box-like hollow metal body 1, having the bottom 2 thereof adjacent to each end, provided with an inwardly projecting longitudinal enlargement 3, said enlargement of the bottom of the tie having vertical openings 4 formed therein, with the innermost end walls of said openings be-

veled as at 5 for a purpose that will presently appear.

The top of the tie, adjacent to each end, is adapted to support the base flanges 6 of a rail 7. The top of the tie at the edges of the base flanges 6 is provided with vertical openings 8 for spike-like fasteners 9, having heads 10 overhanging and engaging the base flanges 6 of the rail 7. The fasteners 9 are of a sufficient length to extend into openings 4, and one side of each fastener is beveled, as at 11, to engage the beveled wall 5 of each of the openings 4.

The fasteners are provided with transverse slots 12 and adapted to engage in the slots are tapering keys 13 and 14, having lower beveled edges. These keys are also adapted to engage in openings 16 provided therefor in the side walls 17 of the tie. By driving keys into said openings and through slots 12, the fasteners are anchored in the tie and to retain the keys in position, the small ends thereof are provided with openings 18 for cotter pins 19.

Interposed between the top of the tie and the base flanges 6 is a plate of insulation 20, and interposed between the fasteners and the edges of the base flanges 6 are tie plates 21 of a suitable insulation. The insulation is employed whereby the tie and rail fasteners can be used in connection with the railroad depending upon track circuits for the signal system.

In Fig. 3 of the drawing there is illustrated a metallic tie of the I beam construction, said tie having the base flanges 22 thereof provided with openings 23 similar to the openings 4, and the top flanges 24 with vertical openings 25. The openings 23 and 25 are adapted to receive fasteners 26, and said fasteners are retained in place by keys 27 extended through openings 28 provided therefor in the web of the tie.

Suitable pieces of insulation 29 are used in connection with the fasteners 26.

What I claim is:—

1. In a metallic tie and rail fastener, a tie having the top and bottom thereof provided with openings; the openings in the bottom of said tie having the innermost walls thereof beveled, fasteners arranged in the openings of said tie and having the lower ends thereof beveled to engage the beveled walls of the openings in the bottom of said tie, heads carried by said fasteners adapted to

engage the base flanges of a rail placed upon said tie, and keys arranged transversely of said tie and adapted to retain said fasteners in engagement therewith.

- 5 2. In a metallic tie and rail fastener, an oblong hollow, box-like body having the top and bottom thereof, adjacent to each end, provided with openings, the openings of the
10 bottom of said body having the innermost walls thereof beveled, fasteners arranged in the said openings, and having the lower ends thereof beveled, heads carried by the upper ends of said fasteners and adapted to retain

the base flanges of a rail upon said tie, insulation material interposed between the 15 heads of said fasteners and the flanges of the rail, and tapering keys arranged transversely of said tie and said fasteners and adapted to retain said fasteners in said tie.

In testimony whereof I affix my signature 20 in the presence of two witnesses.

EDWARD H. McALLISTER.

Witnesses:

ROBERT G. CURREN,
JOS. SWENEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."