

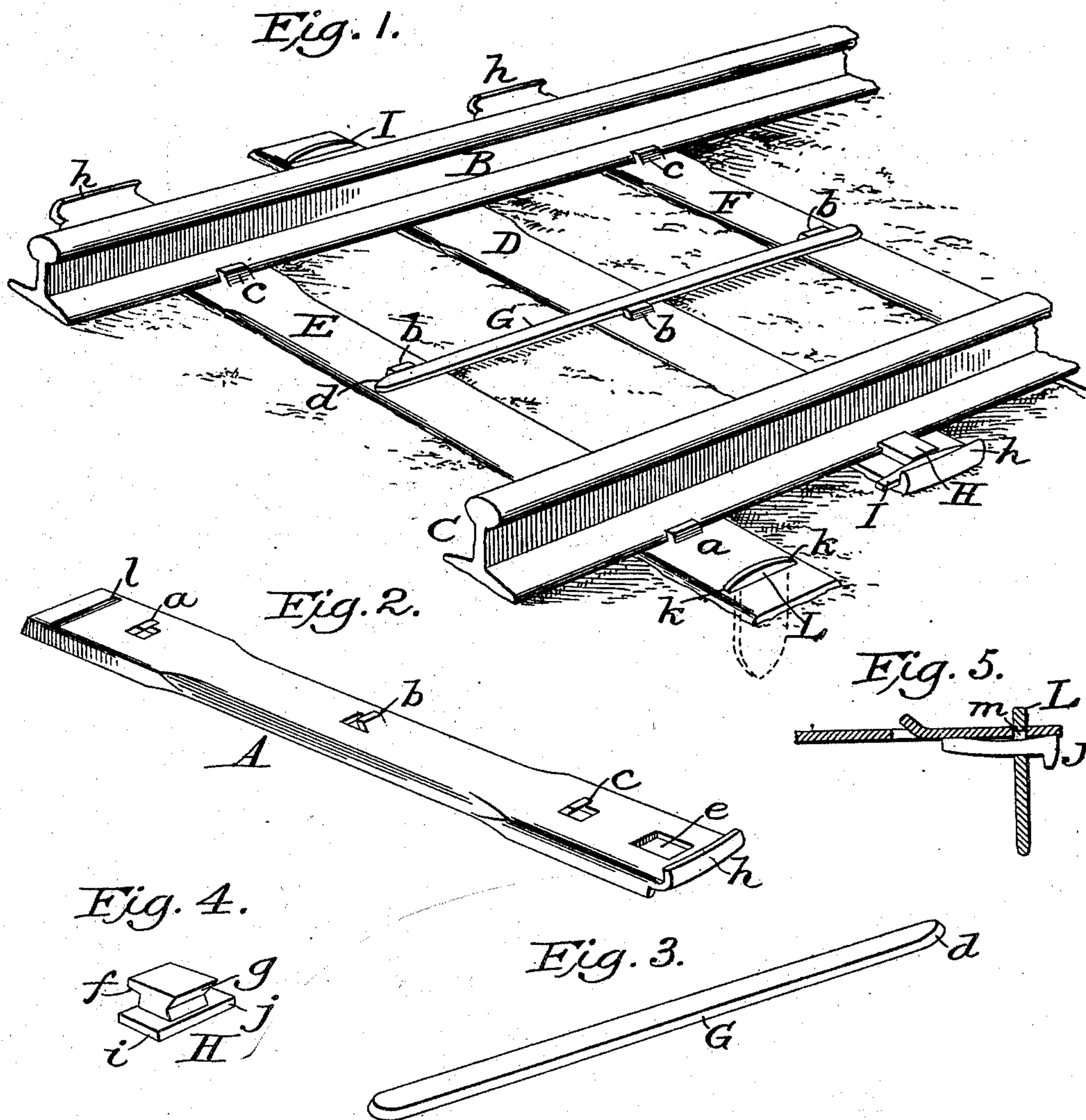
(No Model.)

G. P. GUNN.

COMBINED METALLIC TIE AND TRACK FASTENING.

No. 502,435.

Patented Aug. 1, 1893.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE PECK GUNN, OF ILION, NEW YORK, ASSIGNOR OF ONE-HALF TO
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COMBINED METALLIC TIE AND TRACK-FASTENING.

SPECIFICATION forming part of Letters Patent No. 502,435, dated August 1, 1893.

Application filed September 7, 1892. Serial No. 445,249. (No model.)

To all whom it may concern:

Be it known that I, GEORGE PECK GUNN, a citizen of the United States, residing at Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in a Combined Metallic Tie and Track-Fastening, of which the following is a specification.

My invention relates to a combined metallic tie and track fastening, and consists in various features and details hereinafter set forth and claimed.

In the drawings,—Figure 1 is a perspective view of so much of a railroad bed as is necessary to show my device complete; Fig. 2, a perspective view of one of the ties; Fig. 3, a perspective view of the locking bar or key; and Fig. 4, a perspective view of the supplementary clamping block and Fig. 5, a sectional view of the anchor-plate.

The object of my invention is to do away with all bolts and nuts as now commonly used in metallic ties and fastenings, and furthermore to keep the rails and ties always firmly held together under the varying conditions of temperature and the jar of passing trains.

A represents one of my metallic ties made preferably, though not necessarily, of the form shown.

On each tie there are formed, by being struck up therefrom, three ears or lugs, *a*, *b* and *c*, the outer ones *a* and *c*, extending in one direction, while the central one *b*, is in the opposite direction. The ears *a* and *c* are of a distance apart equal to the usual gage of the road, and are adapted to engage the base flanges of the rails B and C, while the ears *b* are formed nearer the ears *c* than to the ears *a*, or a little to one side of the center of the length of the tie.

The ties are so laid as to cause a reversal of the ears in proximate ties, alternate ties having the ear *a* at the right hand end, and intermediate ties having said ear *a* at the left hand end. Thus in the drawings the tie D is so placed that its ears *a c* take up the opposite sides of the rails B C, from those of the ties E F. The ear *b* of the tie D will have an opposite direction from the ears *b b* of the ties E F, at the same time being thrown out of alignment with them, consequent upon the

ears being formed to one side of the center. Between these ears *b b* is forced or driven the spring fastening bar or key G, advisably formed of heavy steel to afford the necessary strength and resilience to enable it to draw and bind the ties and rails together. This bar is preferably formed with beveled sides to conform to the faces of the ears *b b*, and it is also provided with a rounded nose *d* to facilitate its entrance between the lugs or ears. The tendency of this spring bar is to cause the parts to be held at all times and under all conditions in their proper position, its form and the location of the ears causing it to take up any variations due to change of temperature.

In Fig. 1 I have shown a supplementary fastening for the rail. It consists of a block H, Fig. 4, passed upward into an opening *e* in the tie, the block being provided with two beveled faces *f* and *g*, to bear respectively upon the base flange of the rail and beveled face of the spring wedge I, which is forced in between the block H and the upturned end *h* of the tie. The block is also provided with two laterally-extending arms *i j*, which tend to keep the block in its proper position and prevent its rising as the wedge is driven in. I have shown this device as merely a supplementary fastening, as I consider the spring bar fastening ample under all ordinary conditions.

In Fig. 5 I have shown an anchor-plate designed to prevent longitudinal movement of the tie, said plate I which is pointed being passed down through a slot or opening L, Fig. 2, in the tie and formed with a head *k*, the ends of which bear upon the tie to limit the downward movement of the plate, these plates thus serving to prevent endwise movement of the ties.

To secure the plate in its position, it is provided with an opening *m*, so placed as to come below the under face of the tie, through which opening is forced the spring wedge or pin J which bears against the under face of the tie and thus holds the anchor-plate firmly in position.

While I have described the lugs *b* as being placed at or near the center of the tie, I do not wish to limit myself to that exact loca-

tion, as they may be placed at any other suitable point on the tie so long as they come in proper position to receive the spring fastening bar G.

5 While I have shown my fastening as securing three ties only, I do not wish to limit myself to that number, as more may obviously be held by a single bar if made of sufficient length.

10 Having thus described my invention, what I claim is—

1. A metallic tie provided with two outer ears for engaging the rails both of said ears projecting in the same direction, and a single
15 ear midway of the tie projecting in the opposite direction, substantially as and for the purpose set forth.

2. In combination with a pair of rails, three or more ties each provided with two ears projecting in one direction to engage with the
20 rails, and each having a central ear projecting in an opposite direction, the said ties being arranged so as to cause their ears to project alternately in opposite directions, with a

spring bar G driven or forced between the 25 alternating central ears of the separate ties, whereby the outer ears of each tie are made to clasp the rails, the ties locked in place, and provision is made for the expansion and contraction of the ties as set forth. 30

3. In combination with a rail, a tie provided with an upturned end, and an ear to bear against said rail, a block to bear upon the rail flange, and a spring wedge interposed between said block and the upturned end of
35 the tie.

4. In combination with a tie provided with an opening or slot, a plate passed through said opening and provided with a head *k* and an opening *m*, and a spring wedge passed through
40 said opening and adapted to bear against the under face of the tie.

In witness whereof I hereunto set my hand in the presence of two witnesses.

GEORGE PECK GUNN.

Witnesses:

GILBERT W. WARREN,

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