

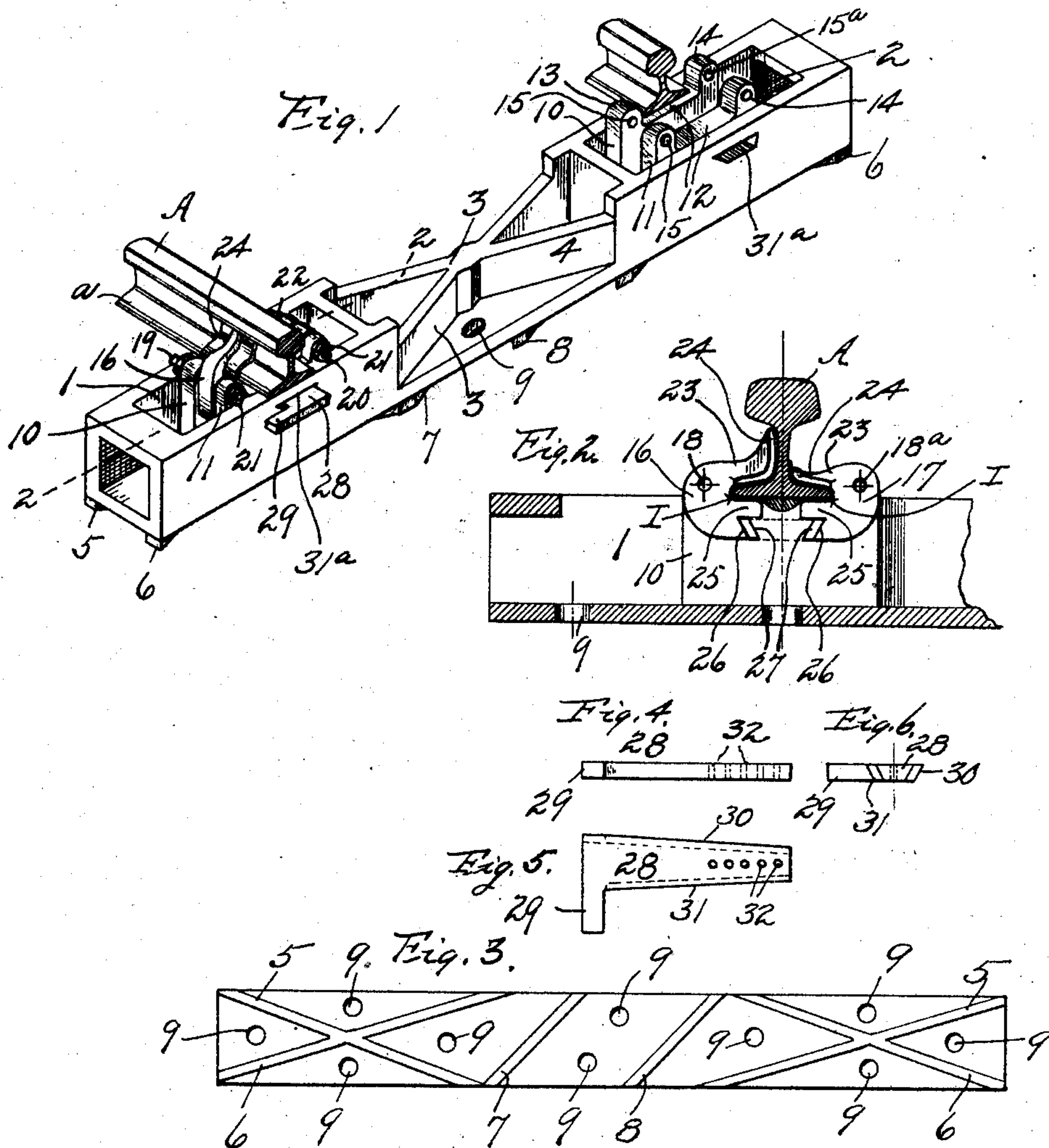
B. C. MURRAY.

METAL TIE.

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909,011.

Patented Jan. 5, 1909.



Witnesses

S. O. Lloyd

A. W. W. W. W.

Inventor

Byron Curtis Murray

By

N. E. Gel

Attorney

UNITED STATES PATENT OFFICE.

BYRON C. MURRAY, OF ALTOONA, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH TO OLIVER ROTHERT, OF ALTOONA, PENNSYLVANIA.

METAL TIE.

No. 909,011.

Specification of Letters Patent.

Patented Jan. 5, 1909.

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To all whom it may concern:

Be it known that I, BYRON C. MURRAY, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Metal Ties, of which the following is a specification.

The present invention relates to metallic ties and has specially in view a novel form of rail fastener having a pivotal engagement with the tie and adapted to tightly lock the rails thereon.

With the above and many other objects in view, the invention contemplates the employment of a metal tie preferably of the hollow type, the end portions of which carry supporting means for pivotally mounted rail clamping members with each of which a co-operating wedging member is employed to cause said clamping members to rock to a position where they will clamp opposite sides of a rail to firmly hold the same to the tie.

In carrying out the invention changes may be made in the details of construction, a preferred and practical embodiment of which is shown in the accompanying drawings, wherein—

Figure 1 is a perspective view of a rail tie equipped with the novel rail fasteners, the same being shown with a rail clamped in position at one end of the tie, the clamping members at the other end being omitted to better illustrate their supporting lugs. Fig. 2 is a longitudinal sectional view taken on the line 2—2, Fig. 1. Fig. 3 is a bottom plan view of the tie. Figs. 4, 5 and 6 are, respectively, a side elevation, plan, and end view of the wedge which coöperates with the clamping members.

Like characters of reference designate corresponding parts.

It is preferred to associate the present invention with the form of hollow metallic tie shown more clearly in Fig. 1 of the drawings and which consists of the integrated open end pockets 1 and 2, and the intermediate upstanding crossed ribs 3 and 4, and in order to assure of an interlocking engagement between the tie and the road ballast, said tie has its bottom surface provided with crossed end ribs 5 and 6, intermediate transverse ribs 7—8, and a plurality of openings 9 arranged between each pair of ribs.

Each of the end pockets 1 and 2 is provided with diametrically oppositely located clamp supporting lugs 10—11 provided with an intermediate flat upper surface 12 and upstanding rounded end ears 13—14, each of which is provided with a pivot opening 15—15^a. Said lugs are arranged as shown in Fig. 1 to permit of clamping members 16—17 being placed between them, said clamping members being each provided with a pivot opening 18—18^a which register with the pivot openings in the said supporting lugs and through which the pivot bolts 19—20 are passed to effect a pivot engagement between the said lugs and clamping members. Said pivot bolts are provided with the nuts 21—22 at their ends to retain them in position. The said clamping members 16—17 in their general configuration are substantially duplicates, and referring more particularly to Fig. 2 of the drawings, it will be observed that each is provided with an inwardly projecting arm 23 which carries a clamping plate 24, the outline of which conforms to the outline of the top and bottom of the spiking flange *a* of the rail A. Said clamping plate 24 is preferably formed integral with the clamping members and its bottom is strengthened and supported by the inwardly horizontal flange 25, beneath which the major portion of each clamping member is cut away to form a longitudinally tapering wedge shaped locking recess 26, the inner wall 27 of which is beveled.

The clamping plate 24 carried by clamping member 16 is preferably of a larger size than the plate carried by the clamping member 17, and its upper portion is of the same configuration as the web *b* of the rail A, with which it engages when in a clamping position. A locking wedge 28 coöperates with the clamping members 16—17 to fasten the rail to the tie, said wedge being provided with an enlarged or laterally extending head portion 29, and longitudinally tapering, transversely beveled sides 30—31, which correspond with the locking recesses 26 formed in the bottoms of the clamping member 16—17, and also with similarly shaped openings 31^a in the side walls of the tie which register with the said locking recesses.

To attach a rail to the tie, the same may be slid through the clamping plates, which of course would be thrown back on their pivots

to permit of such passage of the rail. After the rail is in proper position, the locking wedge is passed through the opening 31^a of the tie and its sides enter the locking recesses

5 26. Owing to the tapering formation of the wedge and the locking recesses, the continued driving in thereof will cause the clamping members to rock on their pivots, spreading apart the lower portions thereof
10 and bring the clamping plate against the rail sides with sufficient pressure to retain the rail in an immovable position. The locking wedge is of such a length that when in its locked position its smaller end will project
15 beyond the tie, and to assure the same being retained in a locking position, a plurality of key openings 32 are formed therethrough for the reception of a locking key or other suitable retaining means. Said key openings 32
20 are preferably arranged in a longitudinal row to permit of the wedge being used in connection with ties of various widths.

From the foregoing description it will be seen that the present invention provides a
25 rail fastening device which is capable of being placed in a rail locking position by driving the wedge in one direction through the tie and the clamping members, and owing to the reduced end of the wedge projecting beyond the opposite side of the tie, the same
30 may be readily forced in the opposite direction to cause the clamping members to release the rails. And it will be further observed that through the described arrangement of the flange 25 at the bottom of each
35 clamping member, a support is provided for the rail at the center of tie pockets which serves to prevent any buckling or bending of the rail.

40 The structure described herein can be adapted for insulated track service by simply interposing insulated material I between the clamps 16 and 17 and the opposing surfaces of the rails as suggested in Fig. 2 of the
45 drawings.

Claims.

1. A tie provided with supporting lugs, oppositely located rail clamps having a pivotal connection with said lugs, and a locking
50 wedge cooperating with said clamps to cause them to engage with opposite sides of a rail.

2. A tie provided with supporting lugs having upstanding pivot ears, oppositely located rail clamps having a pivot-connection
55 with said ears, and a locking wedge cooperating

ating with said clamps to cause them to engage with opposite sides of a rail.

3. A tie provided with supporting lugs, oppositely located rail clamps carrying clamping plates which conform to the contour of the base of the rail and being provided
60 with a lower locking recess, and a locking wedge cooperating with the locking recess in each rail clamp to cause the said clamping plates to engage with opposite sides of the
65 rail.

4. A tie provided with supporting lugs, oppositely located rail clamps each carrying a rail gripping plate and being provided with a lower locking recess the side wall of which
70 is beveled, and a locking wedge the sides of which correspond in shape with the said locking recesses and adapted to cooperate therewith to cause the said clamps to engage
75 with opposite sides of a rail.

5. A rail tie provided with end pockets, supporting lugs in said pockets and provided with upstanding end ears, rail clamping members having a pivotal connection
80 with said ears, said rail clamps being oppositely mounted and each carrying a clamping plate which conforms to the outline of the base of the rail and being provided with a tapering bottom locking recess the end
85 walls of which are beveled, and a locking wedge having longitudinally tapering transversely beveled sides which cooperate with said locking recesses to rock said clamping members on their pivots and cause their
90 clamping plates to engage with the sides of a rail.

6. A rail tie provided with end pockets, supporting lugs in said pockets and provided with upstanding pivot ears, rail clamping members having a pivotal connection
95 with said ears and each carrying a rail clamping plate and being provided with a bottom rail supporting flange and a locking recess, and a locking wedge cooperating with said locking recesses to rock said clamping mem-
100 bers on their pivots and cause their clamping plates to engage with opposite sides of a rail.

In testimony whereof I hereunto affix my signature in the presence of two witnesses. 105

BYRON C. MURRAY.

Witnesses:

N. E. GEE,
Mrs. N. E. GEE.