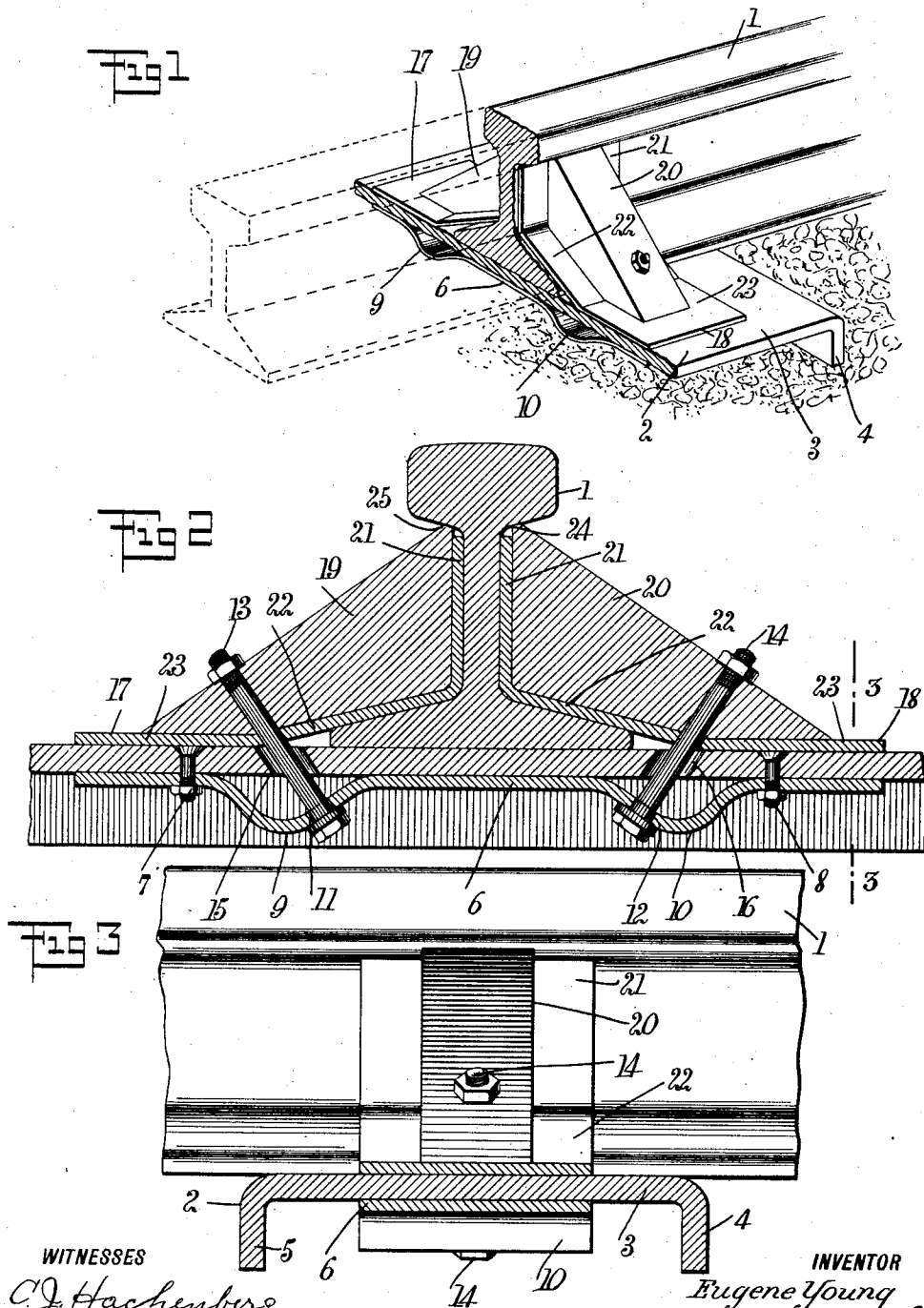


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 COMBINED RAIL FASTENER AND TIE.
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COMBINED RAIL FASTENER AND TIE.

1,037,706.

Specification of Letters Patent.

Patented Sept. 3, 1912.

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To all whom it may concern:

Be it known that I, EUGENE YOUNG, a citizen of the United States, and a resident of Princeton, in the county of Caldwell and State of Kentucky, have invented a new and Improved Combined Rail Fastener and Tie, of which the following is a full, clear, and exact description.

This invention relates to improvements in rail fasteners and ties and has for an object to provide an improved structure formed of metal and arranged to thoroughly clamp and brace the rail in position.

A further object of the invention is the provision of a tie and fastener formed with rail encircling members and braces and a tie structure for supporting the same, formed with a substantially U-shaped bar in cross section and a plate having raised members designed to accommodate securing bolts for holding the bracing members correctly in position.

In carrying out the objects of the invention, a tie of metal substantially U-shaped in cross section is provided, arranged so that the edges or flanges will project downward when in use. Connected with the body portion of the tie near each end thereof is a plate formed with transversely arranged raised portions or ridges having apertures therein registering with apertures formed in the body portion of the tie. Through these apertures are designed to be extended fastening means, as for instance rivets, which also pass through a pair of rail plates and a pair of bracing blocks, whereby all parts of the tie and fastener are rigidly connected together and at the same time the rail is firmly clamped and braced to the tie.

A practical embodiment of the invention is represented in 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 perspective view of an embodiment of the invention applied, the same being broken off and shown partially in section for better illustrating the invention; Fig. 2 is an enlarged transverse sectional view through a rail and combined fastener and tie, the tie being broken off; and Fig. 3 is a section through Fig. 2 on the line 3—3.

Referring to the accompanying draw-

ings by numerals, 1 indicates a rail of the usual kind adapted to rest upon a tie 2. The tie 2 is formed with a top portion 3 and depending side flanges 4 and 5. The side flanges 4 and 5 are adapted to project into the road bed and to support the rails adapted to rest thereon in the usual manner. Arranged near each end of the tie 2 is a plate 6 held in place by any suitable means, as for instance, bolts 7 and 8. The plate 6 is formed with raised or corrugated portions 9 and 10 positioned so as to extend transversely of the tie. The raised portions 9 and 10 are formed with apertures 11 and 12 which accommodate securing bolts 13 and 14. The bolts 13 and 14 are arranged to extend through apertures 15 and 16 formed in the top portion 3 and through plates 17 and 18 as well as bracing blocks 19 and 20. The plates 17 and 18 are each formed with an upright portion 21 pressing against the web of the rail, an inclined portion 22, pressing against the upper side of the base of the rail, and horizontal portions 23 resting against the upper side of the tie 2. The blocks 19 and 20 are formed so as to fit tightly against the portions 21, 22, and 23 of the plates 17 and 18, and also are formed with contact ends 24 and 25 pressing the under surface of the ball of the rail, whereby the blocks 19 and 20 not only press the rail by pressure against the web, but also by engagement with the ball. In forming the apertures 15 and 16, the same are preferably formed larger than the bolts 13 and 14 so as to permit a proper placing of the plates 17 and 18, and the blocks 19 and 20, though if desired the apertures in the plates and blocks could be made to accurately fit so that a reasonably tight contact will be had between the respective parts. However, as the raised portions 9 and 10 are provided so that the apertures 11 and 12 will be at an angle and the bolts 13 and 14 will have a longitudinal pull at an angle, the size of the apertures 15 and 16 is not usually of importance, provided the same is sufficiently large to accommodate the bolt. It will be observed that any strain in either direction tending to tilt the rail or to move the same laterally, will cause a longitudinal pull on one of the bolts and as long as the bolts remain in place the same will resist an appreciable movement of the rail.

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

5 1. In a device of the character described, a tie structure formed with a central upper portion, a depending pair of side webs adapted to extend into the road bed, and a plate arranged near each end between said webs formed with depending portions hav-
10 ing apertures therein, a bracing member arranged on each side of a rail positioned on said tie, and bolts projecting through apertures in said depending member and through said bracing members for clamping the brac-
15 ing members against said rail.

2. In a device of the character described, a tie formed with a pair of spaced apertures near each end, said tie being adapted to receive a rail between said apertures, a pair
20 of bracing blocks formed with an inclined surface designed to press against the upper surface of the base of the rail and with a bracing nose adapted to press against the under surface of the ball of the rail, said bracing
25 blocks being arranged in the same transverse plane, a retaining clamping member extending substantially at right angles to the general direction of the bracing blocks for clamping the same in place whereby the
30 same are caused to press against the upper surface of the base of the rail and the under surface of the ball of the rail, and an independent retaining plate secured to said tie, said independent retaining plate being
35 formed with depressed portions having one surface arranged at substantially a right angle to the general direction of said clamping means, said clamping means passing

through said last mentioned inclined portions.

3. In a device of the character described, the combination with rail fastening means including a pair of retaining bolts, of a tie structure substantially U-shaped in cross section, having apertures at each end, and a plate at each end rigidly secured in position, each of said plates being formed with a transversely arranged bead having an aperture therein for accommodating said retaining bolts.

4. In a device of the character described, the combination with a tie structure, of rail securing means, said rail securing means comprising a pair of plates, each of said plates being formed with an upstanding member adapted to press against the web of said rail, an inclined member adapted to press against the upper surface of the base of said rail, and a horizontal portion adapted to rest on said tie structure, a pair of bracing blocks adapted to fit said plates for pressing the same against said tie structure and said rail, each of said blocks being formed with an extending upper bearing portion resting against the under surface of the ball of said rail, and securing means extending through said bracing blocks, said plates and said tie structure for clamping all of said members together.

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

EUGENE YOUNG.

Witnesses:

J. E. NAU,

C. L. SMITH.

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