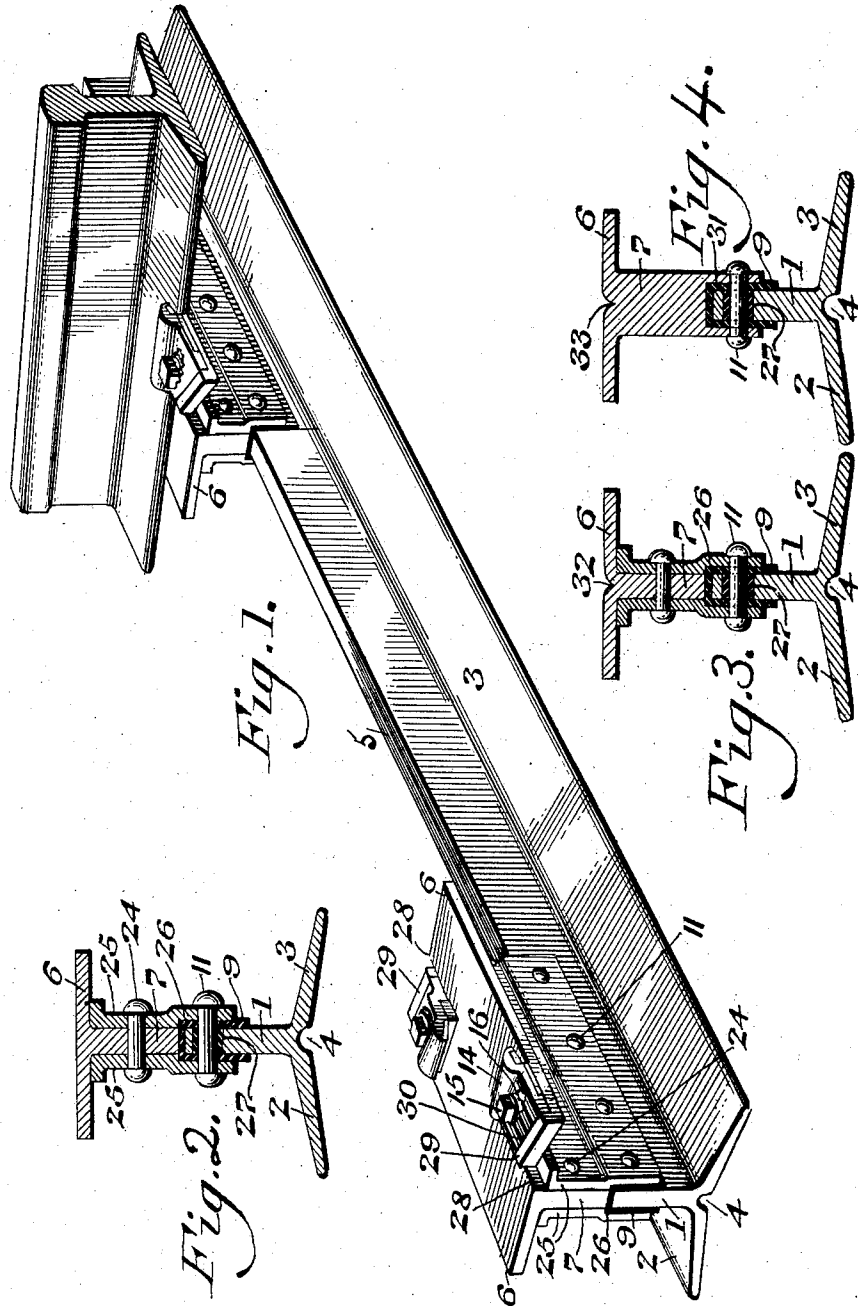


G. W. WHITEMAN.
TIE AND RAIL SECURING MEANS.
APPLICATION FILED APR. 27, 1911.

1,025,664.

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WITNESSES

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GEORGE W. WHITEMAN, OF PHILADELPHIA, PENNSYLVANIA.

TIE AND RAIL-SECURING MEANS.

1,025,664.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE W. WHITEMAN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Tie and Rail-Securing Means, of which the following is a specification.

My present invention relates to ties and rail securing means cooperating therewith and one of the main objects of my invention is to insulate the tie from the rail supporting member by means of insulation retained in position under compression.

A further object of my invention is to secure the insulation in place under compression between two abutting parts.

A further object of my invention is to rivet the rail supporting devices to the tie with the insulation in place therebetween so that the rail supporting devices will be insulated from the tie and the insulation will be retained in position under compression thereby preventing abrasive action on the insulation which is a very objectionable feature in devices of this character as heretofore constructed.

A further object of my invention is to devise a novel construction of a tie and a novel construction of rail supporting devices which may be formed by a rolling operation, thereby greatly reducing the cost of production.

A further object of my invention is to devise a novel construction of rail supporting and securing devices whereby the rails may be readily adjusted to gage and compensate for the wear of the rails, such rail supporting devices being provided with a novel abutment for the fastening clips which coact with the rail to secure the same in assembled position.

A further object of my invention is to devise a novel construction of a tie and rail securing means, wherein the web of the tie is out of contact with the rail and wherein the rail supporting device rests directly upon the web and is insulated therefrom.

A further object of my invention is to equalize the metal at the bottom of the projecting flanges of the tie thereby giving cushion effect and resiliency to the tie, the depression formed by such equalization of the metal being adapted to be filled in with ballast to prevent any improper movement of the tie relatively to its bed.

With the above and other objects in view,

which will be more clearly understood by reference to the detailed description of my invention, the present invention consists of a novel tie construction of a rail supporting member and novel means for insulating such member from the tie.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating my invention I have shown in the accompanying drawings those embodiments thereof which are at present preferred by me, since the same will give in practice satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a perspective view of a tie and rail securing means in assembled position with respect thereto, embodying my invention, a portion of one rail being shown in assembled position with respect to its support. Fig. 2 represents a sectional elevation of Fig. 1. Figs. 3 and 4 represent sectional elevations of other embodiments of my invention.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings:—In all of the embodiments of my invention which I have herein shown, a rail supporting member is seated on the web of the tie and between the web and such member the insulation is secured in place under compression, and in order that my invention may be readily understood I will logically describe the various features of my invention.

1 designates the web of a tie preferably metallic and provided with base flanges 2 and 3, the upper faces of which preferably incline downwardly while the under faces incline inwardly and upwardly in proximity to a depression or recess 4, the latter being preferably located in alinement with the web 1. The purpose of the depression 4 is to give resiliency to the web and compensate for wave motion throughout the length of the rails. The web 1 may be of uniform thickness, and its upper end 5 forms a substantially plane surface thereby adapting the same to receive a rail supporting plate 6, which is provided with a web 7, thereby

adapting the same to be seated upon the web 1 of the tie.

9 designates a strip of insulation which contacts with the sides of the web 1 and the upper face 5.

The rivets or other fastening devices 11 are then secured in position so that, as will be readily understood, the insulation between the rail supporting member 6 and the web 1 will be held in place under compression.

In the embodiment seen in Figs. 1 and 2 respectively, I have shown a construction wherein the web 1 has seated thereon a rail supporting plate 6 consisting of a web 7 and laterally extending top flange, said web 7 having secured thereto, by means of rivets or other fastening devices 24, the plates 25, the upper ends of which engage the under face of the laterally extending flanges of the rail supporting plate 6 and the sides of the web 7, while their lower ends are recessed or off-set, as indicated at 26, thereby providing for the insertion of the insulation 9 which surrounds the upper ends of the web 1 and through which the fastening devices 11 pass, a tube of insulation 27 being also provided in order to insulate the fastening devices 11 from the web 1, it being understood that the fastening devices 11 are also insulated from the web 1. It will be seen that in this embodiment the plates 25 are secured to the web 1 while the rail supporting plate 6 rests upon and is insulated from the web 1 and is securely fastened to the plates 25. In this embodiment the rail supporting plate 6 is cut, as indicated at 28, as seen in Fig. 1, thereby providing for the upward deflection of a portion of the rail supporting plate which forms an abutment 29, the inner face of which is preferably inclined, as indicated at 30.

14 designates a fastening clip adapted to extend over the upper face of the rail flange and to be maintained in its assembled position by means of a fastening device 15 which preferably also includes a washer 16 adapted to interlock with the clip 14 and in the present instance, the washer 16 and clip 14 are shown as provided with serrations on their coacting faces. The clip 14 has one side adapted to engage with the inner face of the abutment 29.

It will be seen that the opposite ends of the plate 6 are upwardly deflected to form abutments 29 thereby providing for lateral adjustment of the rails relatively to the rail supporting plate 6 and the tie in a manner similar to that seen in Fig. 1.

In the embodiment in Fig. 3, I have shown a construction similar to that seen in Fig. 2, with the exception that the rail supporting surface of the plate 6 is provided with a central indentation or groove 32, which is shown as being in alignment with the web 7.

In the embodiment seen in Fig. 4, I have shown a construction similar to that in which the upper portion of the rail supporting surface is provided with an indentation or groove 33 which corresponds to the groove 32 seen in Fig. 3.

In all the embodiments of my invention, which I have herein shown, the insulation is riveted or otherwise secured in place under compression between the rail supporting devices and the web of the tie, and the web of the tie does not extend into contact with the rail.

It will be understood by those skilled in this art that devices constructed in accordance with my invention may be readily and economically manufactured since the construction thereof is essentially a rolling mill proposition and practically no manual labor is required in producing the various parts of my device.

Although I have preferred to show the under face of the tie as being provided with a recess or slot extending longitudinally therefrom and in alignment with the web for the purpose of compensating for the wave motion throughout the rail and imparting resiliency to the upper portion of my device when in assembled position, it is to be understood that in some cases arising in practice it is advantageous to dispense with the recess or slot 4 as the same is not necessary under all conditions.

In so far as I am aware, I am the first in art to support the rail supporting device directly on the web of the tie and secure the insulation in place under compression between the web of the rail supporting device and the web of the tie and it is to be understood that my claims to these features are to be interpreted with corresponding scope.

The web of the rail supporting devices is shown herein as being insulated from the web of the tie but it will be apparent that in the broad scope of my invention the insulation may be dispensed with and the webs of the tie and rail supporting devices be secured together in any desired manner without departing from the spirit of my invention.

It will now be apparent that I have devised a novel and useful construction of a tie and rail securing means which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred embodiment thereof which will give in practice satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, I

what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with a tie having an upwardly projecting web, of rail supporting devices having a web adapted to seat upon the upper portion of the web of the tie, insulation between the abutting portions of said webs, plates on opposite sides of said webs having offsets engaging the insulation, and means coacting with said plates for securing said webs in assembled position.

2. The combination with the web of a tie, of a rail supporting plate having a web seated on the web of the tie, plates on opposite sides of said webs, and means for securing said plates to said webs.

3. The combination with the web of a tie, of a rail supporting plate having a web seated on the web of the tie, plates on opposite sides of the webs, said tie having a depression beneath its web to equalize the thickness of the metal, means for insulating said webs from each other, and means engaging said plates for securing said webs in assembled position.

4. The combination with the web of a tie, of a rail supporting plate having a web seated on the web of the tie, plates on opposite sides of the webs and engaging the under face of the plate, and means for securing the webs and plates in assembled position.

5. The combination with the web of a tie, of a rail supporting plate having a web seated on the web of the tie and in alignment therewith, plates secured to the web of the rail supporting plate on opposite sides thereof and having offset portions extending beyond the web of the rail supporting plate, insulation between said webs and between the web of the tie and the off-set portions of said plates, fastening devices for securing said plates to the web of the tie, and means for insulating said fastening devices with respect to the web of the tie and said plates.

6. The combination with the web of a tie, of a rail supporting plate consisting of

laterally extending flanges and a web, the latter being supported on the web of the tie, members on opposite sides of said webs and overlapping the joint formed thereby for insulating the web of the tie from the rail supporting plate, and means for securing said webs and said members together.

7. The combination with the web of a tie, of a rail supporting plate consisting of laterally extending flanges and a web, the latter being supported on the web of the tie, members on opposite sides of said webs and lapping the joint formed thereby, insulation between said members and the web of the tie, fastening devices engaging said members and the web of said plates, and fastening devices engaging said members and the web of the tie and insulated from the web of the tie.

8. The combination with the web of a tie, of a rail supporting plate having a web seated on the web of the tie, and having a groove in its upper face in proximity to its web, plates on opposite sides of said webs, and means for securing said plates to said webs.

9. The combination with a tie having a web and laterally extending base flanges, the latter being of reduced thickness in proximity to said web, of rail supporting means having a web seated on the web of the tie, plates on opposite sides of said webs, and means for securing said plates to said webs.

10. The combination with a tie having a web and laterally extending base flanges, the latter being of reduced thickness in proximity to said web, of rail supporting means having a web seated on the web of the tie, plates on opposite sides of said webs, means for securing said plates to said webs, and means for insulating the web of the rail supporting means from the web of the tie.

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Witnesses:

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