

G. W. WHITEMAN.

TIE.

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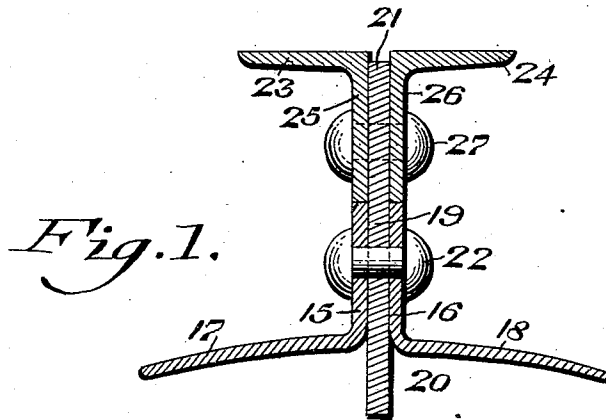
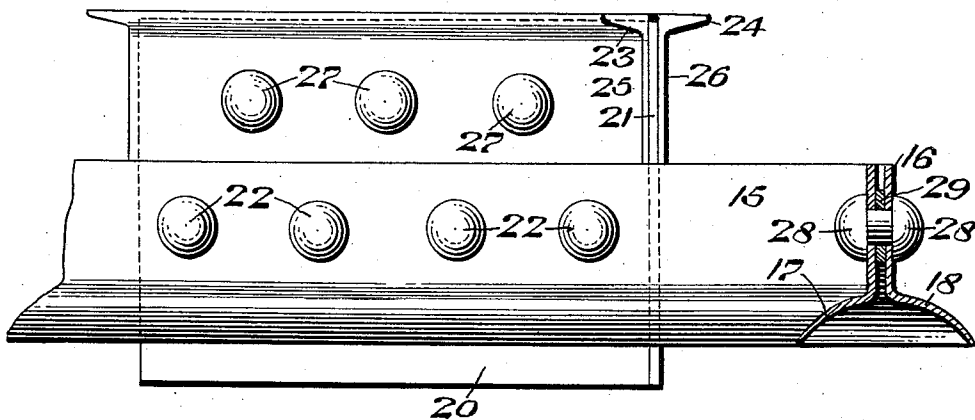


*Fig. 2.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

GEORGE W. WHITEMAN, OF PHILADELPHIA, PENNSYLVANIA.

TIE.

1,065,647.

Specification of Letters Patent.

Patented June 24, 1913.

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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, of which the following is a specification.

My invention consists of a novel construction of a tie preferably metallic wherein novel means are provided for preventing longitudinal movement of a tie with the rail and the shifting out of position of the tie.

It further consists of a novel construction of a tie having means for reducing to a minimum the abrasion of the tie on the ballast.

It further consists of a novel construction of a tie provided with a vertically extending web located between the outer edges of the bottom flanges of the tie and extending any desired length of the tie and which may be constructed in a built up tie or in a rolled bottom section.

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 one form thereof which is at present preferred by me, since the same has been found in practice to give 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 transverse section of a tie embodying my invention. Fig. 2 represents a perspective view of a portion of a tie and rail supporting plate corresponding to that seen in Fig. 1.

Similar numerals of reference indicate corresponding parts in the figures.

My invention is shown for purposes of illustration adapted to be carried out in practice in a tie which is formed of a built up construction, such as is illustrated in Figs. 1 and 2, to which figures attention is now directed. In this embodiment seen in Figs. 1 and 2, 15 and 16 designate angles having the laterally extending flanges 17 and 18 respectively the underfaces of which are preferably curved inwardly and upwardly. 19 des-

ignates a plate preferably of metal, the lower end of which extends as indicated at 20 beneath the flanges 17 and 18, and also above the upper face of the angles 15 and 16 as is indicated at 21. 22 indicates fastening devices of any desired type which pass through the angles 15 and 16 and the plate 19. 23 and 24 designate angles which form the rail supporting plates, the downwardly extending portions 25 and 26 of said angles being adapted to engage the side of the plate 19 and to rest upon the angles 15 and 16. 27 designates fastening devices which pass through the angles 25 and 26 and the plate 19. The upper end of the plate 19 preferably terminates a slight distance beneath the upper face of the angles 25 and 26. This plate 19 may extend the entire length of the tie, if desired, or it may extend only the length of the rail supporting plates 23 and 24 as will be understood by reference to Fig. 2, in which latter case the fastening devices 28 which pass through the plates 15 and 16 also pass through washers or spacing elements 29 located between such plates as will be clearly understood by reference to the right hand portion of Fig. 2. In case the central web forming plate extends the entire length of the tie, it preferably does not extend above the upper face of the angles 15 and 16, except where the rail supporting plates are located.

It will of course be understood that instead of employing angles to form the rail supporting plates and the base flanges that the vertical webs of the angles may be formed integral or in other words, channels may be employed instead of angles, and such channel construction is within the spirit and scope of my present invention.

By employing a depending web located between the side edges of the base flanges of the tie and extending therebeneath, the longitudinal movement of the tie with the rail and the shifting of the tie out of position on the ballast is prevented and vertical stiffness is imparted to the tie. This depending web also tends to keep the tie in vertical position.

In ties as heretofore constructed considerable difficulty has arisen owing to the crumbling and abrasion of the ballast beneath the tie and by the employment of a downwardly extending web, this abrasion on the ballast and the crumbling of the ballast is reduced to a minimum.

It will be apparent that in my present invention I have devised a novel construction of a tie which may be readily and economically manufactured by rolling process or which, if desired, may be readily cast or otherwise formed. It will be further apparent that the depending web may be located at any point between the outer faces of the base flanges.

It will now be apparent that I have devised a novel and useful construction of a tie 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 preferred embodiments thereof which have been found in practice to give satisfactory and reliable results, it is to be understood that the same are 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, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination in a tie of angles forming laterally extending base flanges, a plate secured between said angles and having a portion extending beneath said base flanges, and rail supporting means comprising angles secured to said plate and having laterally extending top flanges.

2. The combination in a tie, of angles forming laterally extending base flanges, a plate secured between said angles and having a portion extending beneath said base flanges, and rail supporting means secured to said plate and comprising angles having vertically disposed flanges supported on said angles.

3. In a tie, upper and lower angles each having a vertically disposed flange and a laterally disposed flange, and a plate disposed between said vertically disposed flanges and secured thereto.

4. In a tie, upper and lower angles each having a vertically disposed flange and a laterally disposed flange, the vertically disposed flanges of the upper angles being supported upon the vertically disposed flanges of the lower angles, a plate between the vertically disposed flanges of said angles, and fastening devices for securing said plate

with respect to said vertically disposed flanges.

5. In a tie, upper and lower angles each having a vertically disposed flange and a laterally disposed flange, a plate disposed between said vertically disposed flanges, said plate terminating beneath the laterally disposed flanges of the upper angles, and means to secure the parts in assembled condition.

6. In a tie, upper and lower angles each having a vertically disposed flange and a laterally disposed flange, the vertically disposed flanges of the upper angles being in alinement with the vertically disposed flanges of the lower angles, a plate between said vertically disposed flanges and extending beneath the laterally disposed flanges of the lower angles, and means to secure the parts in assembled condition.

7. In a tie, upper and lower angles each having a vertically disposed flange and a laterally disposed flange, the vertically disposed flanges of the upper angles being supported on the vertically disposed flanges of the lower angles, a plate between the vertically disposed flanges of said angles and terminating in proximity to the upper faces of the laterally disposed flanges of the upper angles and having its lower end extending beneath the laterally disposed flanges of the lower angles, and fastening devices for securing said vertically disposed flanges to said plate.

8. In a tie, lower angles having vertically disposed flanges and laterally disposed flanges, the bottom surface of the latter curving inwardly and upwardly, a plurality of plates disposed between said vertically disposed flanges and secured thereto and extending beneath the laterally extending flanges of the lower angles, rail supporting means having vertically disposed flanges in alinement with and supported on the vertically disposed flanges of the lower angles, said means also having laterally disposed top flanges, and means to secure the vertically disposed flanges of said rail supporting means with respect to said plates.

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Witnesses:

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