W. F. BLACK.

CONCRETE TIE.

APPLICATION FILED APR. 13, 1911.

1,004,351. Patented Sept. 26, 1911.

Fig. 1.

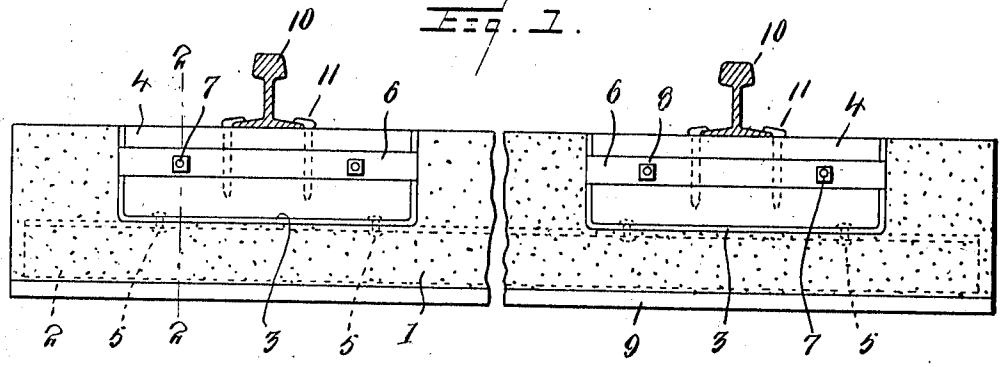


Fig. 2.

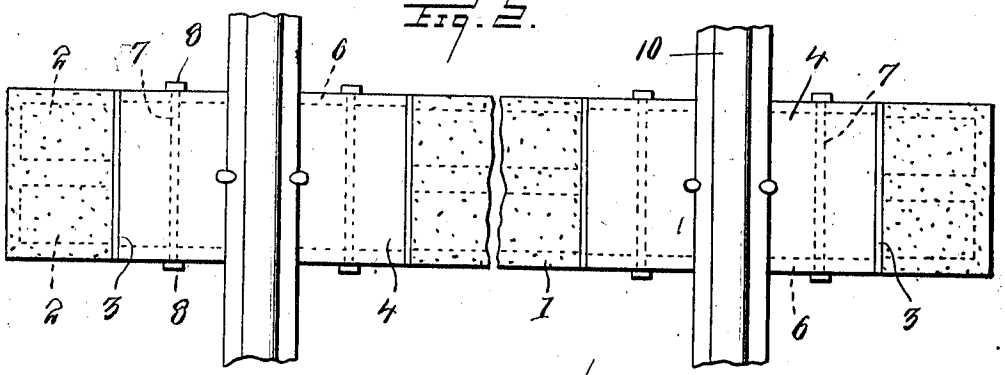


Fig. 3.

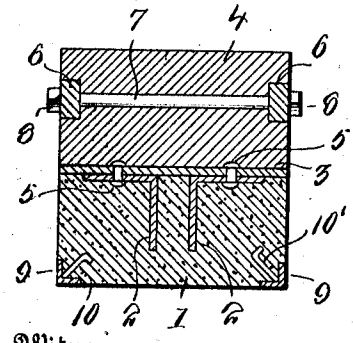
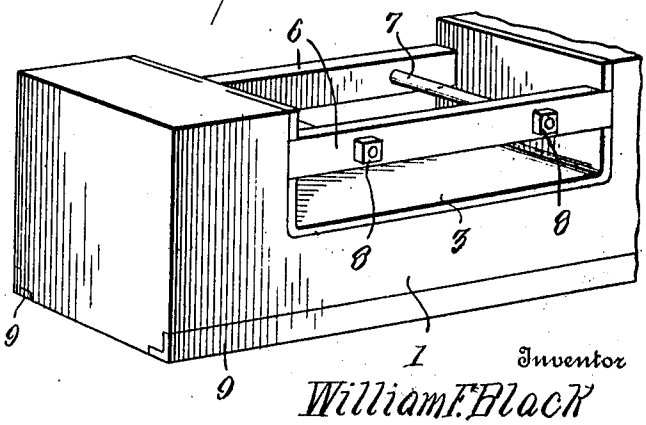


Fig. 4.



Witnesses

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CONCRETE TIE.

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To all whom it may concern.

Be it known that I, WILLIAM F. BLACK, citizen of the United States, residing at East Palestine, in the county of Columbiana and State of Ohio, have invented new and useful Improvements in Concrete Ties, of which the following is a specification.

This invention relates to improvements in ties for railway rails, the primary object being to provide a tie constructed of plastic material with metallic reinforcements, the said tie having its opposite ends formed with depressions or pockets which are also constructed of some suitable metal, the said pockets adapted for the reception of cushion members upon which the ties are secured, thereby imparting to the said ties an amount of elasticity equaling that of the ordinary wooden ties.

Another object of the invention is to provide a plastic tie with reinforcing elements secured within the body of the tie and elements for protecting the edges of the tie, the said edge protectors having securing means embedded in the plastic body which materially assist in the reinforcement of the said body.

With the above objects in view, and others which will appear as the nature of the description progresses, the invention resides in the novel construction and arrangement of parts hereinafter fully described and claimed.

In the drawings, accompanying this specification, there has been illustrated a simple and preferred embodiment of the improvement, it being understood, however, that the showing therein is merely illustrative, and that changes in the minor details of construction, as to size, proportion, etc., which fall within the scope of the appended claims may be made, if desired.

In the drawings—Figure 1 is a side elevation of a tie constructed in accordance with the present invention. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse sectional view taken upon the line 2—2 of Fig. 1. Fig. 4 is a detail perspective view of one end of the tie.

Like reference characters indicate corresponding parts throughout the specification.

The improved tie is formed in a suitable mold, constructed for this purpose. The tie is of the usual size and shape, and comprises a body 1, which is formed of some suitable plastic material, such as concrete or the like. Embedded within the tie 1 and extending almost the entire length thereof is a pair of angle bars 2. These angle bars are constructed of any suitable material, metal preferred, and the said angle bars are spaced a distance away from each other adjacent the central portion of the body of tie. The angle bars are arranged in a parallel relation with each other, so that the horizontal flanges of the said bars are in the same plane, and the vertical flanges extend downwardly within the plastic body in a parallel relation with each other. The horizontal faces or off-sets of the angle bars 2 are adapted to support suitable substantially U-shaped members 3, the same being approximately of a width equaling that of the tie, and the said U-shaped members are preferably constructed of metal. These members 3 are arranged adjacent the opposite ends of the tie and the said members provide pockets for the reception of cushion members 4. These cushion members are preferably constructed of wood, but other material may be employed if desired. The connecting portions of the U-shaped pockets are secured to the horizontal faces of the angle bars through the medium of bolts, or other securing devices, designated by the numeral 5.

The numerals 6 designate suitable bars which are integrally formed with or otherwise secured to the vertical portions of the U-shaped pockets, and these bars are provided with openings which register with similar openings formed in the cushion members, the said openings being adapted to receive removable securing elements, such as bolts 7 and nuts 8.

The rails which are designated by the numerals 10 after being positioned upon the cushions are secured to the tie through the medium of the usual spikes 11.

The corners of the tie are protected through the medium of longitudinally extending angle irons 9, and these angle irons are provided with off-set securing elements 10′, which enter the plastic body of the tie at an angle to the said tie, and thus provide additional reinforcing elements. It is, of course, to be understood that the corner reinforcements, as well as the pockets and the angle bar reinforcements, are arranged within the mold when the tie is in the course of formation, and from the above description, taken in connection with the accompanying drawings, the simplicity of the device, as well as the advantages thereof, will, it is

thought, commend themselves to those skilled in the art to which such inventions appertain.

Having thus described the invention, what I claim is:—

1. A plastic tie having oppositely arranged angle bars embodied therein, U-shaped metallic members secured to the angle bars adjacent the ends of the tie, side strips connecting the U-shaped members, a cushion member for each of the U-shaped members and removable elements for retaining the cushion members upon the U-shaped members.

2. A plastic tie having embodied therein oppositely arranged longitudinal extending angle bars, U-shaped metallic members connected with the bars and arranged adjacent the ends of the ties, each of the U-shaped members being of a width equal to the width of a tie, bars connecting the off-sets of the U-shaped members, each of said bars having a rigid alining opening, and each of said cushions being provided with openings for the openings of the connecting bars, and bolts and notches for the openings to retain the cushion upon the tie.

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

WILLIAM F. BLACK.

Witnesses:
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