

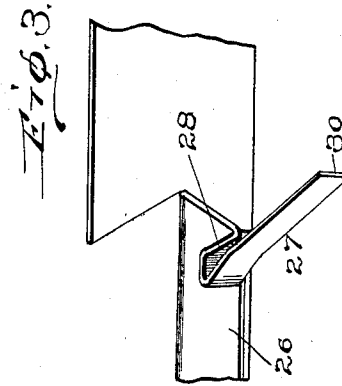
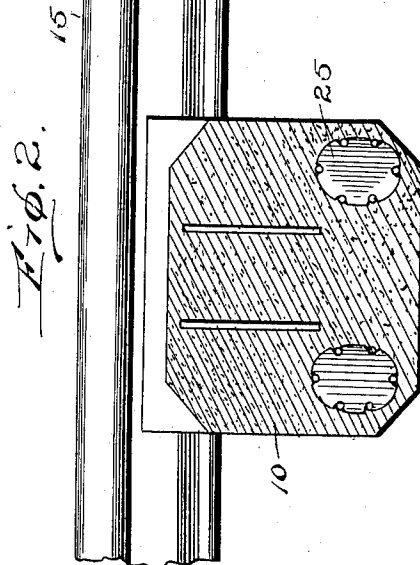
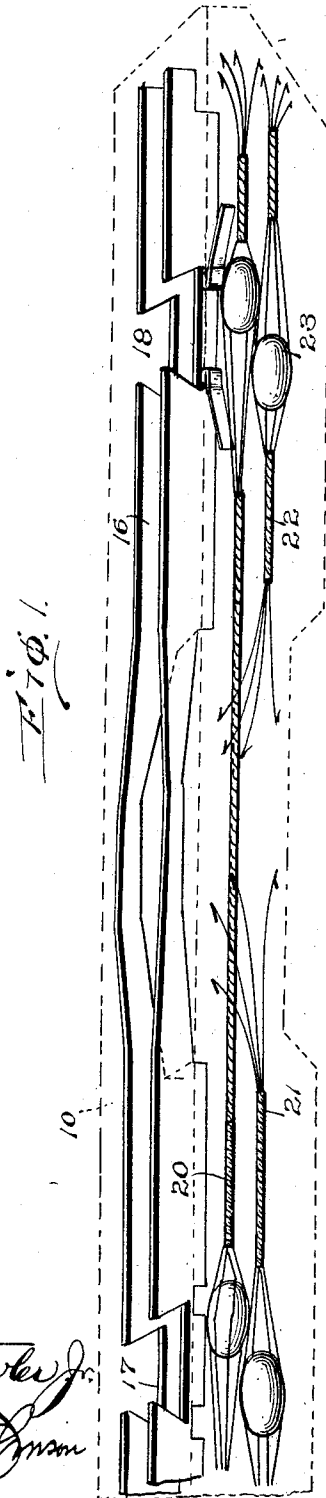
W. G. CHIPLEY.

CROSS TIE.

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1,040,145.

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UNITED STATES PATENT OFFICE.

WILLIAM G. CHIPLEY, OF ATLANTA, GEORGIA.

CROSS-TIE.

1,040,145.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM G. CHIPLEY, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Cross-Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cross ties, and the object is to provide improved reinforcing means for a concrete tie.

Briefly described, the invention contemplates the use of a tie comprising a body portion of concrete with a reinforcement of novel construction, and including a channel member embedded in the tie below the upper surface thereof, and further reinforcing devices located below the channel member and substantially parallel therewith. The reinforcing members located in the lower portion of the tie may be of wire, and preferably in the form of a cable, or cables, the strands at the ends of the cables being untwisted and spread, in order to permit of their being disposed throughout the end portions of the tie. One of the important features is the provision of suitable means for spreading the strands of the cable at a point intermediate of the ends, said means being of suitable formation and of such material that it will unite with and become a part of the body portion of the tie. A spreading device of concrete is suitable for this purpose.

In the accompanying drawings forming part of this application, Figure 1 is a view of the device in perspective; Fig. 2 is a transverse section through the tie, and Fig. 3 is a detail view showing one form of the channel member, with a laterally extending ear partly bent into position.

The body portion of the tie is indicated by 10 and the rail by 15, the body portion being formed preferably with ends relatively heavy in order to furnish a substantial foundation or pedestal for the rails.

The upper reinforcing device is in the form of a channel member 16, the sides of which are cut away at 17 and 18 for the reception of rail-securing devices. The central portion of the channel member presents a slightly arched effect, the bottom and sides being deflected for this purpose.

The lower reinforcement consists of cables, which may extend the full length of the tie, as cable 20, or as in the case of cables 21 and 22, may extend from the ends of the tie to about the central portion thereof.

The strands of the several cables are separated at any suitable point between the ends and the ends are separated and spread in various directions. A block or small body of concrete 23 of any suitable shape forms a most desirable device for spreading the cables at points between the ends, as it will readily unite with the concrete of the tie proper while the plastic concrete is forced between the strands and is caused to envelope the reinforcement.

In Fig. 2 I have shown a notched plate 25 for spreading the strands, but the concrete block is preferred, for obvious reasons.

In the form shown in Fig. 3 the metal cut away from the sides of the channel member to form openings for the rail-securing devices is treated in a particular manner in order to stiffen the cut away portion and provide ears which may project slightly and act as additional reinforcement. The side is bent downwardly at 26, a strip along the front is partially severed to form a member 27, the unsevered part is bent upwardly at 28, member 27 is bent to the position shown in Fig. 3, and finally to complete the operation the several parts mentioned are forced back against the side of the channel into a substantially flat position with the ends 30 projecting slightly.

Owing to the structural characteristics of the reinforcement specified it is unusually effective, being at the same time, economical.

What I claim is:

1. In a cross tie, a body portion of concrete, and a reinforcing member therefor, comprising a cable having the strands thereof spread at given points, and means for retaining the strands in a separated position, such means being of material adapted to unite with and form a part of the body portion of the tie.

2. In a cross tie, a body portion of concrete, and a reinforcing member therefor, comprising a cable having the strands thereof spread at given points, and a body of porous material for retaining the strands in a separated position.

3. The combination of a body portion of concrete, and a reinforcing member therefor, comprising a plurality of wires in inti-

mate association for a portion of their length and separated at given points by a body of concrete formed independently of the body of the tie.

- 5 4. A reinforcing member comprising a cable the strands of which are spread at given points and a body of porous material for retaining the strands in a separated po-

sition such material being inserted in a solidified condition. 10

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

WILLIAM G. CHIPLEY.

Witnesses:

GEORGE H. MACDONALD,
H. C. JOHNSON.

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