C. E. MARKHAM.

CONCRETE TIE.

APPLICATION FILED MAR. 11, 1911.

1,002,719. Patented Sept. 5, 1911.

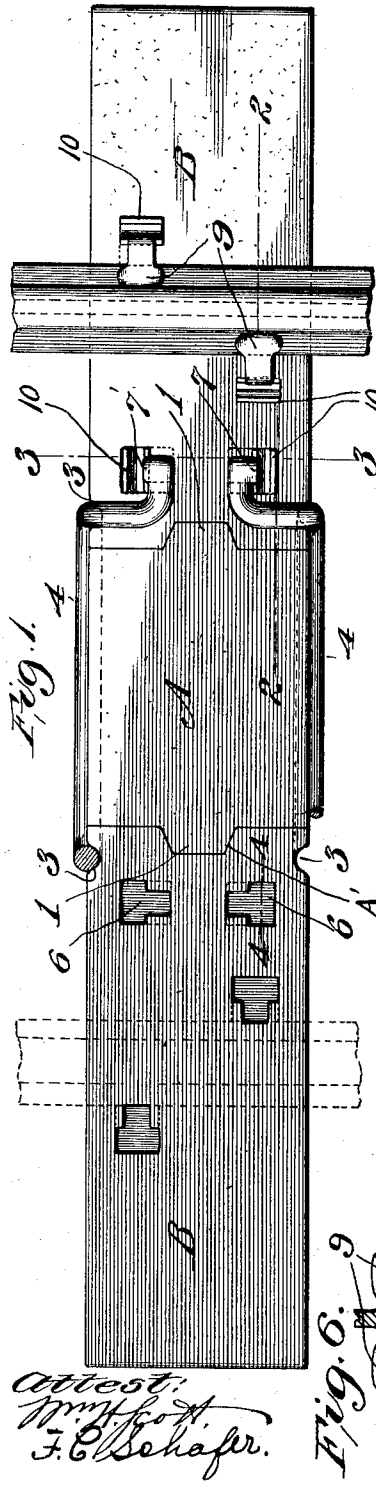

Fig. 1.

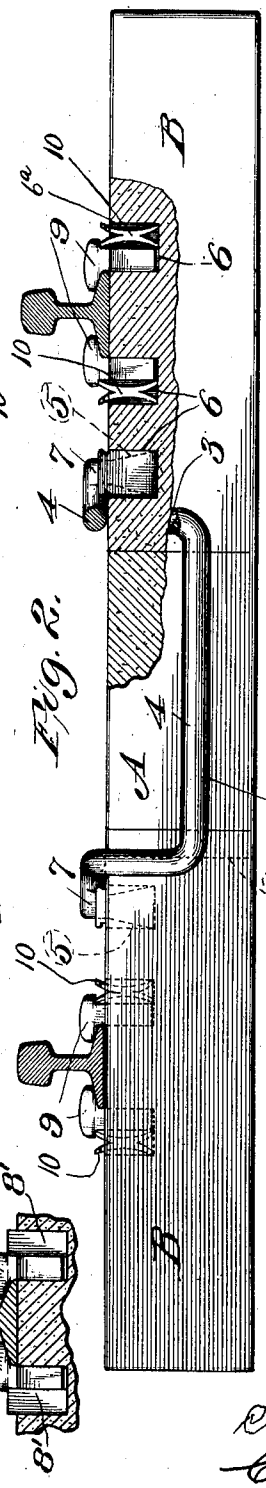

Fig. 2.

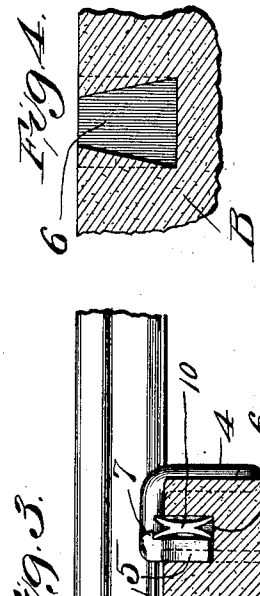

Fig. 4.

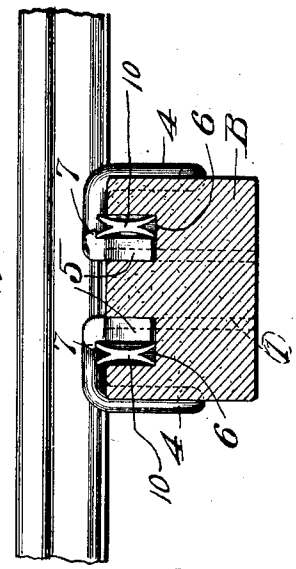

Fig. 3.

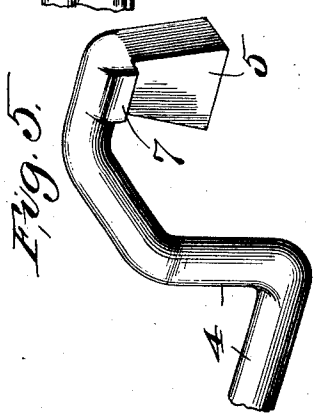

Fig. 5.

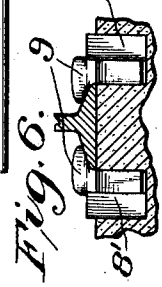

Fig. 6.

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UNITED STATES PATENT OFFICE.

CHARLES E. MARKHAM, OF WILLIAMSVILLE, MISSOURI, ASSIGNOR OF ONE-THIRD TO WILLIAM C. McKENZIE AND ONE-THIRD TO T. W. IVY, BOTH OF WILLIAMSVILLE, MISSOURI.

CONCRETE TIE.

1,002,719. Specification of Letters Patent. **Patented Sept. 5, 1911.**

Application filed March 11, 1911. Serial No. 613,944.

To all whom it may concern:

Be it known that I, CHARLES E. MARKHAM, a citizen of the United States, residing at Williamsville, Wayne county, Missouri, have invented a new and useful Concrete Tie, of which the following is a specification.

This invention relates to improvements in railway ties, especially that type made of concrete or plastic material.

Said invention has for its object, among other things, to provide for the requisite yielding or cushioning of the tie under the action of the wheels of the car as in contacting with the rails carried by the tie.

A further object of the invention is to provide a sectional tie of the character described adapted to have such yielding action or movement and yet possess the required strength and durability called for in a railway tie.

A still further object is to provide for effectively holding the rails in position upon the tie as against possible casual displacement.

The invention consists of certain instrumentalities and features substantially as hereinafter fully disclosed and defined by the claims.

This invention relates to ties made of concrete and other plastic material, and its object is to provide an improved tie comprising a plurality of separate detachable sections secured together by metallic binding devices.

In the accompanying drawing illustrating the preferred embodiment of my invention, wherein it will be understood that various changes and modifications of the details of the construction and arrangement of the parts may be made without departing from the spirit of my invention, Figure 1 is a plan view of my improved tie with the parts assembled and secured together. Fig. 2 is a side elevation partly in section on the line 2—2 of Fig. 1 disclosing more particularly the rail-securing devices. Fig. 3 is a sectional view on the line 3—3 of Fig. 1, showing more especially the locking means for the tie-rods between the tie members. Fig. 4 is a sectional view on the line 4—4 of Fig. 1, showing one of the dovetailed recesses which receive the correspondingly shaped tie-rod terminals. Fig. 5 is a broken perspective view of one of the tie-rods, and Fig. 6 is a fragmentary sectional detailed view, showing another form of the rail-securing devices.

In practicing my invention I employ a tie which comprises an intermediate member or section A, and duplicate, interchangeable end members or sections B. The member or section A is provided with tongues 1 received by recesses or grooves A′ in the inner ends of the end sections B preferably as shown in Fig. 1, thereby preventing lateral movement of any of the sections.

A groove 3 is formed in each side of the member A and continues upwardly in the end sections to the upper edges thereof. A metallic tie-rod 4 is seated in each groove, the ends of said tie-rod extending over the top of the end sections and downwardly and let into recesses or sockets 6, said ends being enlarged or formed with wedge shaped or dove-tailed terminals 5 for anchoring the same in said recesses or sockets, the sections of the tie thus being firmly tied or connected together. The recesses or sockets 6 are widened or enlarged toward the lateral edges of the tie to initially receive the wedge shaped terminals 5. After inserting the wedge shaped portions of the tie-rod terminals into the enlargements of the sockets or recesses, the terminals are moved into the correspondingly shaped portions of the sockets or recesses. Each terminal 5 has a shoulder 7 at its upper end, and into each recess 6 is inserted an end-bifurcated locking device 8, one prong of which engages said shoulder as said device is forced to final position, securely locking the parts together. By means of this arrangement the parts are effectively held against possible separation while possessing the requisite resiliency.

In the end sections are formed other sockets or recesses 6^a similar in shape to the recesses 6, and into these recesses are inserted the rail securing clamps 9 which are flared downwardly and are received by said recesses 6^a. Said rail securing clamps engage over the base of the rails as shown, and in connection with these clamps are employed similar end-bifurcated wedging devices 10 as those above described for holding said clamps in effective engagement. In order, however, to provide for the retention of the clamps against outward displacement, they are moved into the narrow or lower wedge-shaped portions of the sockets 6^a.

In the form of my invention as suggested by Fig. 6, it will be seen that in lieu of the bifurcated-ended resilient keys or members 8, I use simply rectangular members, blocks or plugs 8′ which are inserted into the sockets or recesses alongside of the rail-clamps, thus providing for securing the latter equally effective in their final positions in engagement with the rail-bases.

What I claim is:

1. A tie of concrete or plastic material, including a plurality of members or sections, tie-rods for said members or sections, and fastenings for said tie-rods comprising flared terminals upon said tie-rods, and keys engaging said terminals, said terminals and keys being received by sockets in certain of said members or sections of corresponding outline as said terminals.

2. A tie of concrete or plastic material, comprising a plurality of members or sections, tie-rods for said members or sections and fastenings for said tie-rods including flared terminals upon said tie-rods, and keys adapted to engage said terminals, said terminals having at their upper ends shoulders adapted to be engaged by said keys, said terminals and keys being received by sockets in said members of corresponding outline as said flared terminals.

3. A railway tie of the character described, including a plurality of members or sections, tie-rods for said members or sections and fastenings for said tie-rods, said tie-rods being of approximately bail-like outline with their end portions at right angles to the body or main portion, said body portion adapted to be applied laterally to the intermediate section or member of the tie and the end members or sections of said tie, the end portions of said tie-rods being adapted to engage the upper surfaces of said end members or sections.

4. A concrete tie comprising a series of separate sections having a tongue and groove connection and provided with grooves, certain of said sections having sockets or recesses, removable metallic connections seated in said grooves and extending into certain of said sockets or recesses, and devices locking said connections in said sockets, substantially as specified.

5. A concrete tie comprising a central section, two end sections having a tongue and groove connection with said central section and provided with sockets, tie-rods for said sections, said sections having recesses to receive said tie-rods, said end sections being provided with additional sockets to receive the terminals of said tie-rods, and locking devices holding said tie-rods in position.

In witness whereof, I have signed this specification in the presence of two subscribing witnesses.

CHARLES E. MARKHAM.

Witnesses:

F. C. SCHAFER,

L. C. KINGSLAND.