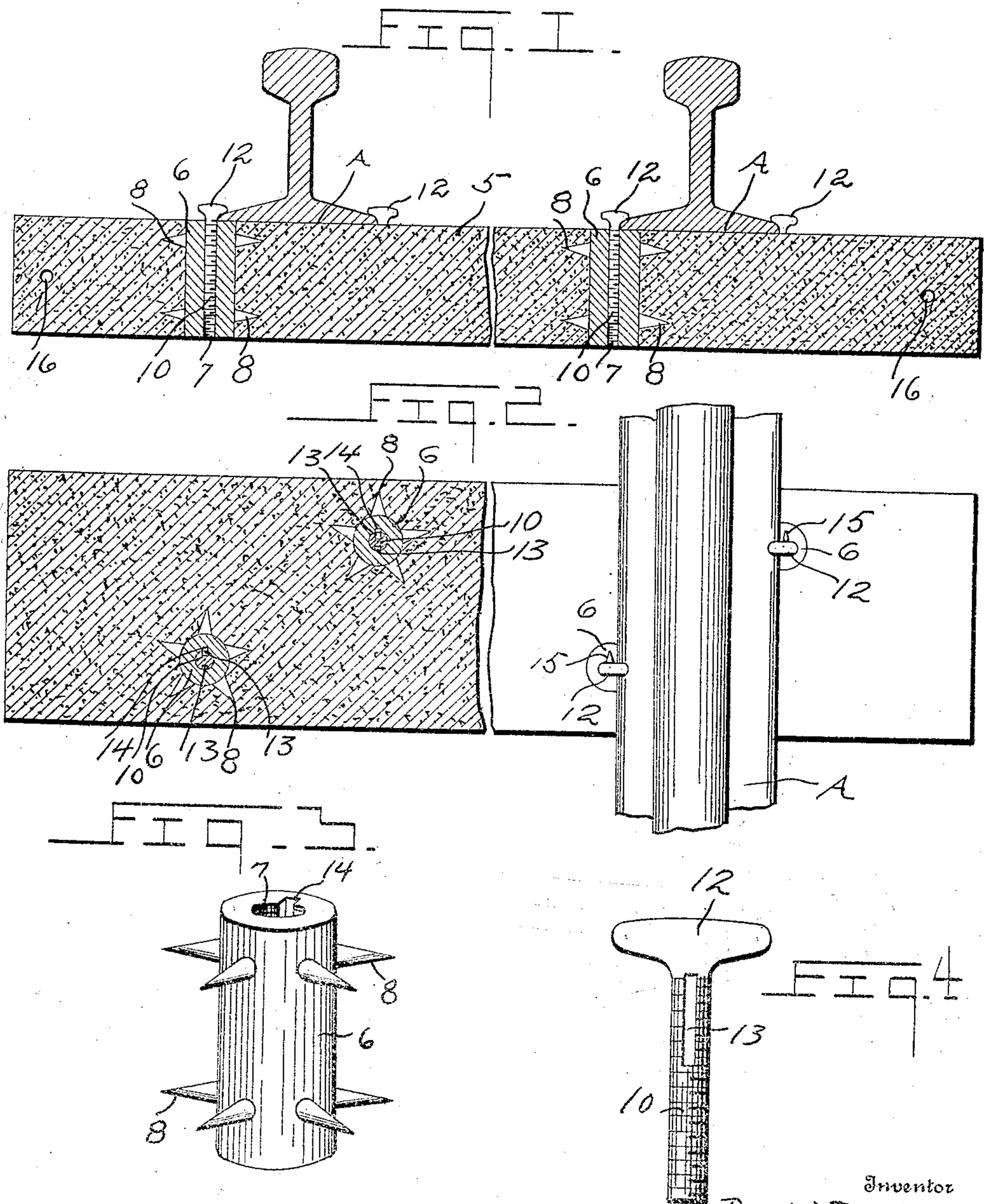


D. BORTH, SR.
RAILROAD TIE.
APPLICATION FILED MAY 14, 1909.

951,230.

Patented Mar. 8, 1910.
2 SHEETS—SHEET 1.



Witnesses
E. C. Johansen
E. C. Chandler

Inventor
Daniel Borth Sr.
By *W. C. Chandler*
Attorney

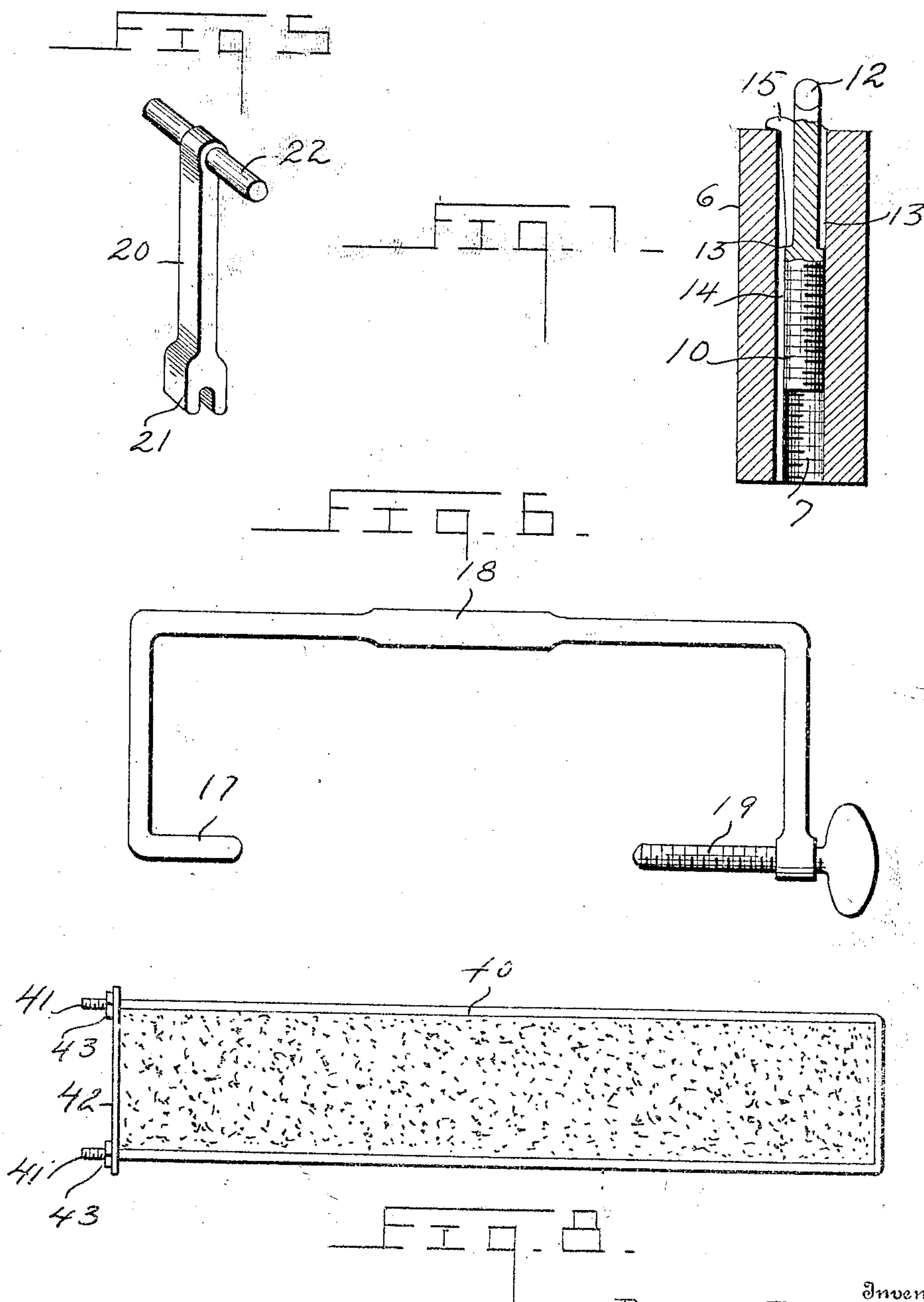
RAILROAD TIE.

APPLICATION FILED MAY 14 1909.

951,230.

Patented Mar. 8, 1910.

2 SHEETS--SHEET 2.



^{Inventor}
Daniel Borth, Sr.

Witnesses

E. E. Johansen
E. T. Chandler

Woodward & Looney

Attachments

UNITED STATES PATENT OFFICE.

DANIEL BORTH, SR., OF HERRIED, SOUTH DAKOTA.

RAILROAD-TIE.

951,230.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed May 14, 1909. Serial No. 496,090.

To all whom it may concern:

Be it known that I, DANIEL BORTH, Sr., a citizen of the United States, residing at Herried, in the county of Campbell and State of South Dakota, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification.

This invention relates to certain new and useful improvements in that class of ties made of cement, concrete, or like plastic material.

The primary object of my invention is, to provide a reversible molded tie, so constructed that the upper or lower face of the tie may be used to receive the rails.

A further object is, to provide a molded tie, with a tubular receiving member, to removably hold a rail securing member said rail securing members being locked or keyed to said tubular receiving members.

With these and other objects in view the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and particularly pointed out in the appended claims, it being understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a part of this specification and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a longitudinal section of a composite tie, showing the position of the tubular holders, Fig. 2 is a top view of a tie partly in section embodying my invention, Fig. 3 is a perspective view of one of the tubular members, Fig. 4 shows an enlarged detail of one of the T-shaped rail securing bolts, Fig. 5 shows an enlarged detached detail of the spanner, Fig. 6 is a detail of the carrier used in handling the ties, Fig. 7 is a detached detail of the locking keys used in my invention, Fig. 8 shows a view of a tie provided with a retaining band.

My invention relates to ties made of cement, concrete or like material, provided with a metallic supporting and holding means, which partly supports the rail and serves to firmly hold a detachable rail securing member.

In the drawings, 5 represents a tie made of any suitable material which is provided with four of my rail holding devices, two being secured at each end of the tie. Each

holder comprises an open ended tubular member 6, interiorly threaded as shown at 7, while radiating from the outer peripheral surface of each tubular member 6, are a plurality of cone shaped spurs 8. As shown in the drawings, these spikes or spurs are of such a length that they extend well below the flange of the rail A. The spurs are secured near the end of the tubular members, and in the drawings I have shown each of these tubular members 6 as being provided with five of these outwardly extending spurs at each end. In connection with these members 6, I employ a rail securing bolt comprising a threaded stem 10 and the clamp head 12. Each bolt 12 upon its two opposite sides is provided with a rectangular groove 13, these grooves extending downward a suitable distance. Each tubular member 6 at one point is also provided with a lengthwise positioned rectangular keyway 14, the keyways 14 being held in parallel relation to the outer edges of the flanges of the rails A. When the T-shaped rail securing bolts are secured to hold a rail one of the key grooves 13 will register with the keyway 14 within the tubular member 6. Within these registering keyways 13 and 14 is then inserted a suitable key 15 which may be driven into the keyways, though held so that the same may be readily removed in case it should be desired to replace the rails. The tubular holders 6 extend from one face of the tie to the other, so that these ties may be reversed. In order to facilitate the handling of these ties, I provide the same at each end with the oppositely positioned openings 16 within which may be inserted the stem 17 of the carrier 18 and the adjusting screw 19 adapted to be threaded into the opening opposite. In securing two such carriers 18 to a tie the same can be readily carried and handled.

From the foregoing it will be seen, that I provide a tie, within which are embedded a plurality of tubular holders, which are so held and spaced, that the four securing bolts held within these tubular holders, accurately determine the relative position of the rails. The space between each diagonally held set of rail securing bolts, equals the width of the rail flange, so that after being secured to the ties, the rails cannot be shifted, without shearing off the bolts, or displacing the ties.

The ties having been properly aligned and

placed, the manner of securing the rails to the ties is very simple. The T-shaped rail securing bolts are introduced into the threaded openings of the tubular members. 5 These members extend laterally a suitable distance so that they partly support the base or flange of the rail. The T-shaped bolts are then screwed home by means of the spanner 20 having the forked head 21, and 10 the operating handle 22. After one head-end of each bolt has been firmly carried over the flange of the rail, one of the keys 15 is introduced into the key grooves to prevent any accidental displacement of these rail 15 securing bolts.

From the foregoing it will be seen that I provide a tie which is rust and fire proof, and in connection with which the rail securing means are such, that the rails may 20 be instantly removed and replaced. In order to more firmly secure the rails, the ties may be provided with grooves within which the rails are held.

In Fig. 8, I disclose a tie to which I have 25 secured a holding band 40 having the threaded stems 41. The stems carry the plate 42, held by means of the nuts 43. This band provides a readily attachable repair member, by means of which a cracked or 30 broken tie can be mended.

Having thus described my said invention, what I claim as new and desire to secure by United States Letters Patent is:—

1. A reversible molded tie provided near each end with two diagonally positioned 35 open ended interiorly threaded tubular members extending through the tie from face to face, each member being provided with a plurality of laterally projecting spurs, a T-shaped bolt held within each of 40 said tubular members, and means to lock said bolts within said tubular members.

2. A reversible molded tie provided near each end with two diagonally positioned 45 open ended interiorly threaded tubular members extending through the tie from face to face, each member being provided with a plurality of laterally projecting spurs, a T-shaped bolt held within each of said tubular members, each of the tubular 50 members having a lengthwise positioned slot, each of said bolts having a lengthwise positioned slot, and a key to work within said slots, as and for the purpose set forth.

In testimony whereof I affix my signature, 55 in presence of two witnesses.

DANIEL BORTH, Sr.

Witnesses:

M. J. SCHIRBER,
Ed. KURCH.