J. P. BOOGHER.

RAILWAY TIE.

APPLICATION FILED MAY 13, 1910.

980,189. Patented Jan. 3, 1911.

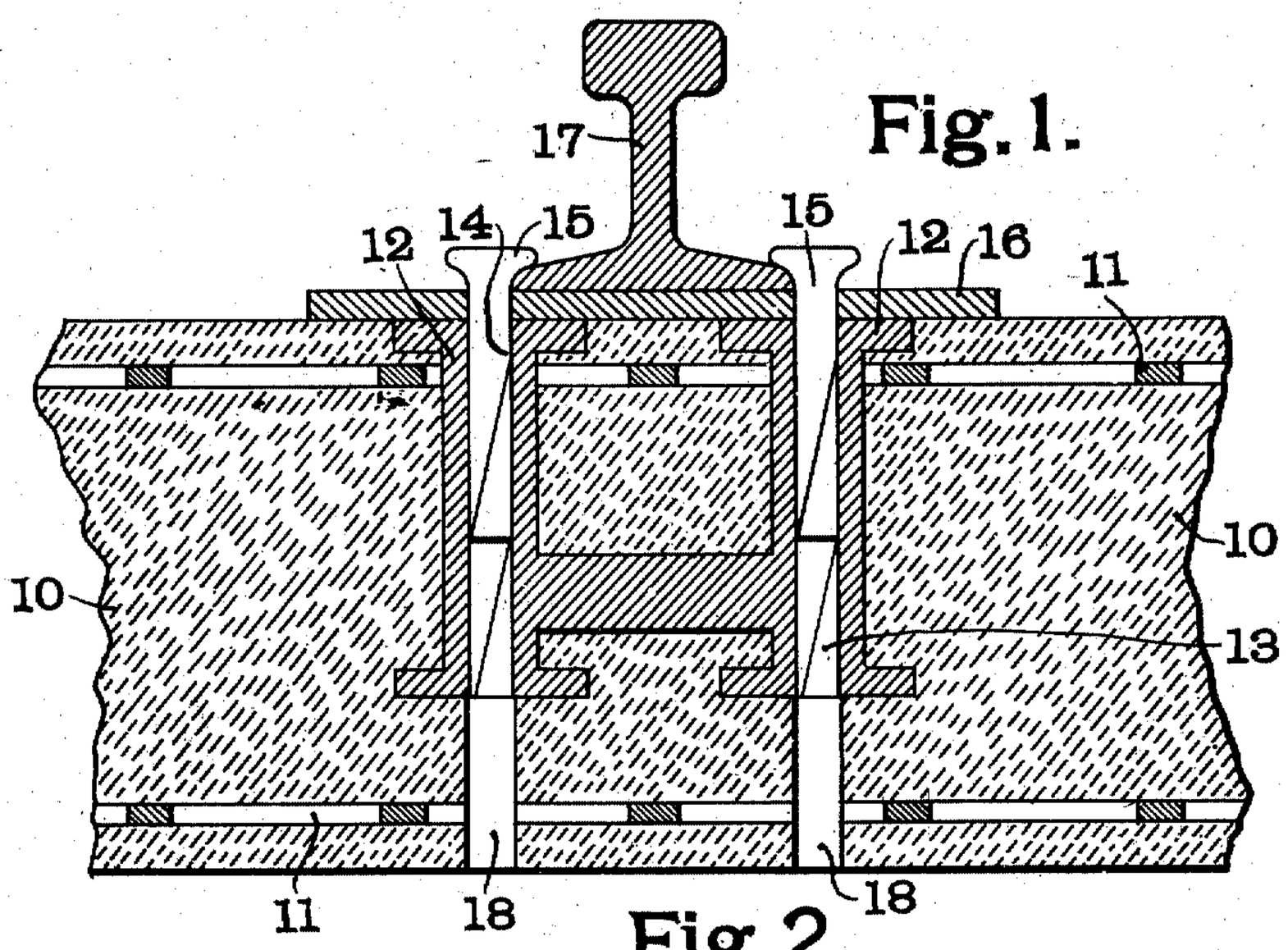

Fig. 1.

Fig. 2.

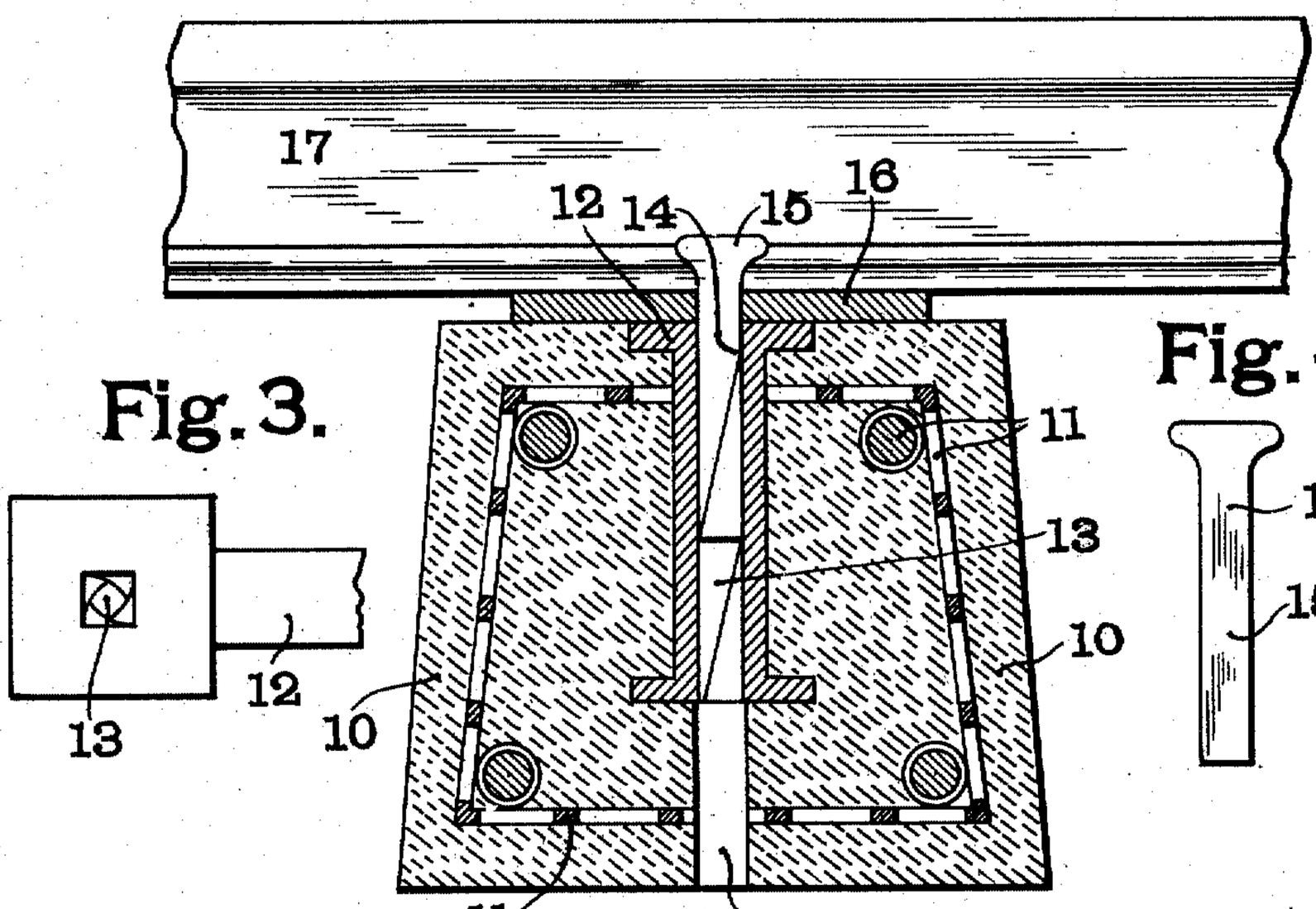

Fig. 3.

Fig. 4.

WITNESSES:

L. L. Mead.

W. A. Alexander.

INVENTOR

John P. Boogher,

BY

Fowler & Huffman

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN P. BOOGHER, OF ST. LOUIS, MISSOURI.

RAILWAY-TIE.

980,189. Specification of Letters Patent. Patented Jan. 3, 1911.

Application filed May 13, 1910. Serial No. 561,151.

To all whom it may concern:

Be it known that I, JOHN P. BOOGHER, a citizen of the United States, residing at the city of St. Louis, Missouri, have invented a certain new and useful Railway-Tie, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to railway ties and particularly to railway ties the bodies of which are formed of concrete.

In my prior application No. 514,477 filed August 25, 1909 and in my prior Patent No. 956,622 granted May 3, 1910, I have described a form of fastening for the rail in concrete railway ties in which the spike enters a slightly twisted bore in a metallic insertion in the tie.

The present invention relates to this form of fastening and has for its object the provision of means for effectively locking the spike against accidental withdrawal from the bore of the metallic insertion.

In the accompanying drawings which illustrate one form of tie made in accordance with my invention, Figure 1 is a vertical longitudinal section through a portion of the tie; Fig. 2 is a cross section; Fig. 3 is a top plan view of a portion of one of the metallic insertions and Fig. 4 is a side elevation of one of the spikes adapted to cooperate with the insertion.

Like marks of reference refer to similar parts in the several views of the drawings.

10 represents the body of the tie which is formed of concrete. The tie is provided with the usual metallic reinforcements 11. In addition to the reinforcements 11 the tie is provided with a metallic insertion 12 for the purpose of securing the rail to the tie. This insertion 12 may be of any suitable shape but is preferably substantially H-shaped, as best shown in Fig. 1 of the drawings. Through each of the up-rights of the insertion 12 is formed a bore 13. This bore 13 is angular and preferably square in cross section as shown in Fig. 3. The bore is slightly twisted throughout nearly its whole length. At the upper end, however, the bore differs from the remainder of the bore and is preferably straight or substantially so to a point some distance below the top of the insertion as indicated at 14 in Figs. 1 and 2. Owing to the difference between the upper part of the bore 13 and the remainder of it when the spike 15 is withdrawn from the bore it will be twisted back into its original shape as shown in Fig. 4, and consequently resistance will be offered to the withdrawal of the spike throughout substantially its entire movement out of engagement with the bore. In this way I secure a simple and efficient locking means for preventing the withdrawal of the spike 15.

16 represents a metallic bearing plate placed between the tie 10 and the rail 17. The insertion 12 does not extend entirely through the tie 10 and in order to allow the spike 15 to be driven through the tie in case the head becomes broken off an opening 18 is formed through the remaining part of the tie in line with the bore 13 in the reinforcements 11.

The operation of my device will be evident from the above description. In driving the spike 15 into position it will be twisted by means of the twisted bore of the metallic insertion 12, this operation being substantially the same as in my patent and application above referred to. When, however, it is desired to remove the spike it will be necessary to supply sufficient force to cause the spike to be twisted back to its former position as it passes out through the straight portion of the bore 13 so that an effective locking means for the spike is provided.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a railway tie, the combination with a body of concrete of a metallic member embedded in said body and provided with a twisted bore of angular cross section, the upper end of said bore differing from the remainder thereof, whereby a spike will be twisted both when entering and leaving the said bore.

2. In a railway tie, the combination with a body of concrete, of a metallic member embedded in said body and provided with a twisted bore of angular cross section, the upper end of said bore being substantially straight, whereby a spike will be twisted both when entering and leaving the said bore.

3. In a railway tie, the combination with a body of concrete, of a metallic member embedded therein and provided with a twisted

bore of angular cross section, the upper end of said bore differing from the remainder thereof, whereby a spike will be twisted both when entering and leaving said bore, said metallic member passing only partially through the body of concrete, and said body being provided with an opening forming a continuation of said bore.

In testimony whereof, I have hereunto set my hand and affixed my seal in the presence of the two subscribing witnesses.

JNO. P. BOOGHER. [L. S.]

Witnesses:
W. A. ALEXANDER,
HENRY F. DROSTE.