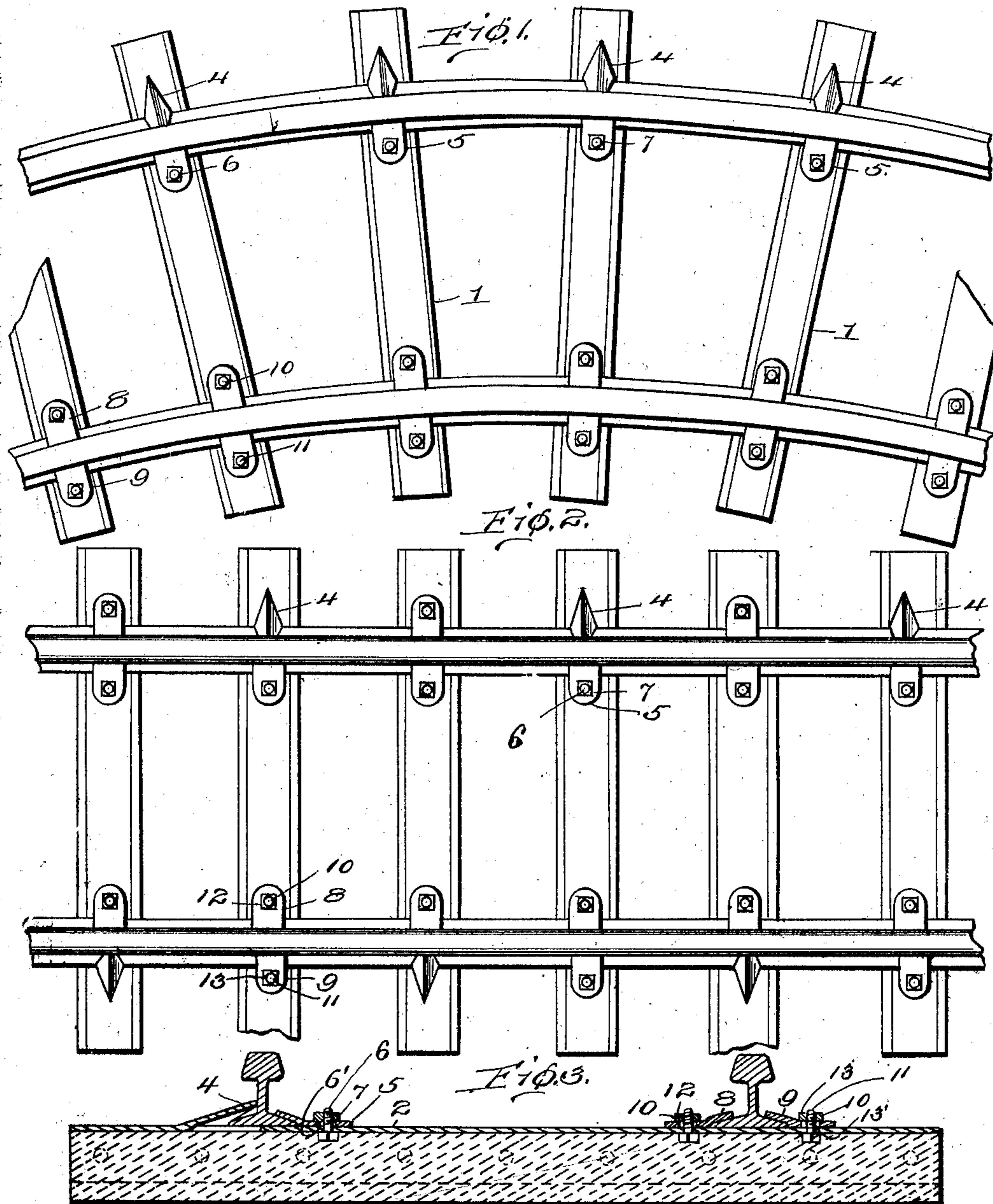


E. W. ATKINSON.
RAILWAY TIE.
APPLICATION FILED MAR. 22, 1910.

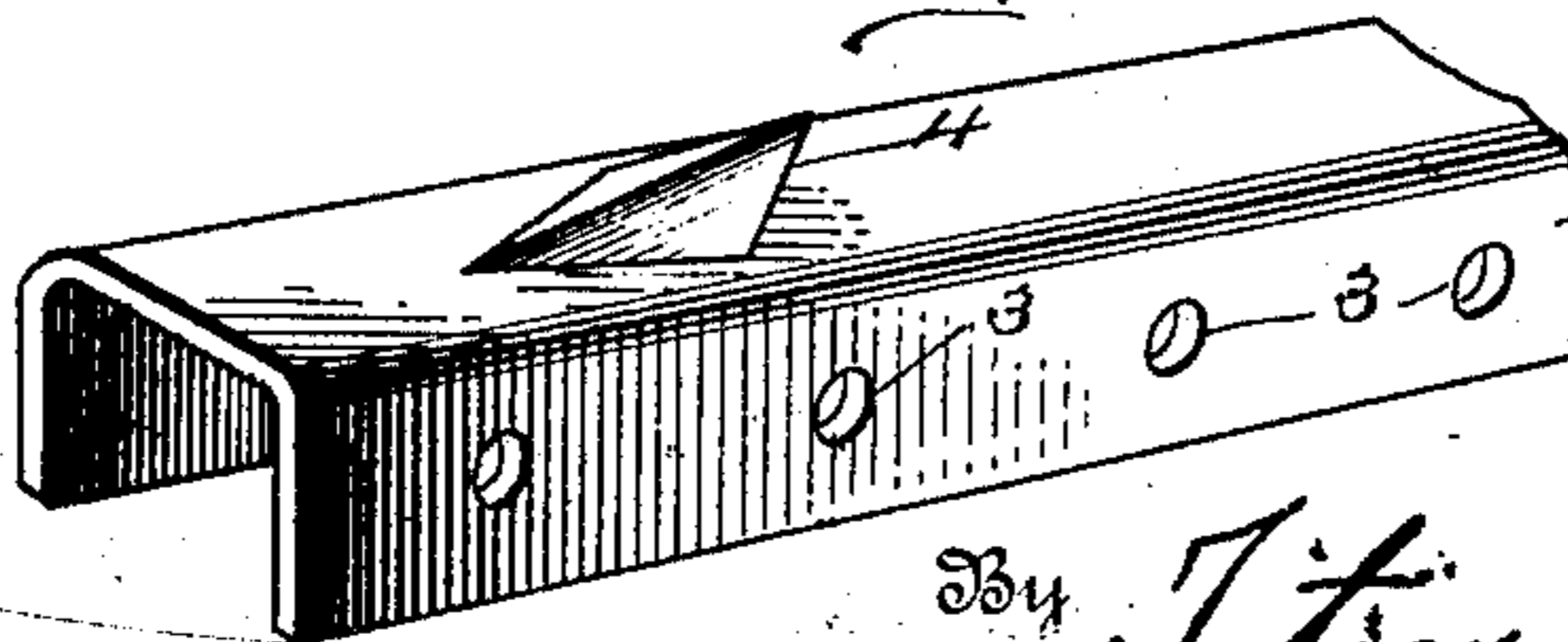
985,123.

Patented Feb. 28, 1911.



Witnesses
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EDIE W. ATKINSON, OF NORFOLK, VIRG. A.

RAILWAY-TIE.

985,123.

Specification of Letters Patent.

Patented Feb. 28, 1911.

Application filed March 22, 1910. Serial No. 550,905.

To all whom it may concern:

Be it known that I, EDIE W. ATKINSON, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Railway-Ties, of which the following is a specification.

This invention relates to improvements in railway ties of the composite type.

10 The object of the invention is to provide a reinforced concrete cross tie which is very simple in construction; which is much cheaper than the ordinary wooden tie, both from the standpoint of initial cost, as well as the saving effected from greatly increased durability, and one in which the use of spikes, braces and tie plates, and the cost incident to these, is eliminated.

15 A further object of my invention is to provide a tie wherein the rails will be securely braced as well as fastened and one, the use of which will greatly facilitate the work of track laying, both in the straight and curved sections of the track. The tie is particularly useful in laying curved sections of the track, where it is highly desirable to brace the outer rail in said section.

20 Other objects of the invention resulting from the peculiar combination of parts shown in the drawing will become apparent in the following description.

25 Figure 1 is a top plan view of a curved section of a track, the rails laid upon my improved tie. Fig. 2 is a straight section of track employing the improved tie; Fig. 3 is a longitudinal section of the tie, with the rails mounted thereon; Fig. 4 is a perspective view of a portion of the metallic shell which is incased in the concrete or main body of the tie.

30 Referring to the several views, the numeral 1 indicates the tie composed of cement, concrete or other plastic material, capable of being molded and which hardens, and the numeral 2 designates the metallic shell for reinforcing and strengthening the tie. This shell is trough-shape and is molded or embedded longitudinally in the concrete or cement and forms a part of the tie. It is put in the cement in inverted position, with its upper surface flush with the top of the tie, the sides of the metal shell being provided with a plurality of holes 3, through which the concrete passes, so as to lock or bind said shell firmly in its embedded

position in the concrete body. The upper surface of the shell near one end is provided with an integral rail brace 4, to receive the outer flange of the rail and securely fasten the rail to the tie. The brace, serving the double purpose of a brace and a fastening device, abuts against the vertical part of the rail as shown in Fig. 3. The other or inner side of the rail is secured by means of a clamping plate 5 and a bolt 6, said bolt projecting up through a hole in the shell or strengthening plate, and through an elongated slot 6' in the clamping plate 5, the latter plate being firmly clamped to the rail flange by a nut 7. The elongated slot in the clamping plate, permits of a slight lateral movement of the plate, which is desirable in adjusting it in proper position on the flange of the rail. The opposite rail is securely fastened to the tie by clamping plates 8 and 9 and bolts 10 and 11, respectively. These bolts pass upward through the shell and clamping plates and the nuts 12 and 13 are used to bind the clamping plates upon the rail flanges. These clamping plates 8 and 9 are also provided with elongated slots 13'.

35 In laying the track, I prefer to so arrange the ties that combined rail brace and fastening device 4 will come alternately on the outer side of the rail throughout a straight track section, but in the construction of a curved section of a track, I prefer to so arrange the ties, that the brace and fastening device of each tie, will come against the outer rail, where greater bracing is required.

40 In laying the track, there will be found little, if any use for a track gage, for the proper gage of the rail is predetermined by the integral brace and fastening clamp and the bolts at the opposite end of the tie.

45 It will be noted that the construction provides a bearing for the rail, partially of metal, or the upper surface of the shell and partially of concrete on each side of the upper surface of said shell.

50 From the foregoing, it will be seen that I have produced a very simple and durable tie and one in which, without the slightest alteration in the ties, will permit of the building of a straight section of the track with the combined brace fastening device on alternate sides of the track and on the outer sides of the rails and at the same time will permit of the building of a curved section of a track with the combined braces and fastening de-

vices on the outer side of the rail where bracing in such a track section is most desirable.

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

1. A composite railway tie, composed of a concrete body reinforced by a trough-shape metallic shell embedded longitudinally therein and flush with the top surface of the tie, said metallic shell having struck up there-through, an integral combined rail brace and clamp, said shell being provided with perforations in its side, for the passage of concrete, whereby the metallic plate is tied or bonded with the body, bolts and clamping plates for fastening the rails to the tie.
2. In railway construction, the combina-

tion with the track-rails, of a composite tie composed of a concrete body reinforced by a trough-shape metallic shell embedded longitudinally therein and flush with the top surface of the body, said metallic shell being provided with means for bonding the shell to said body, and having an integral combined rail-brace and clamp at one end, and an adjustable clamping-plate at the other end, and clamping-plates and bolts for securing the rails to the ties.

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

EDIE W. ATKINSON.

Witnesses:

JAMES L. CRAWFORD,
FRANK G. BRERETON.