

No. 798,155.

PATENTED AUG. 29, 1905.

G. BEAL.  
RAILWAY TIE.  
APPLICATION FILED MAY 11, 1905.

2 SHEETS—SHEET 1.

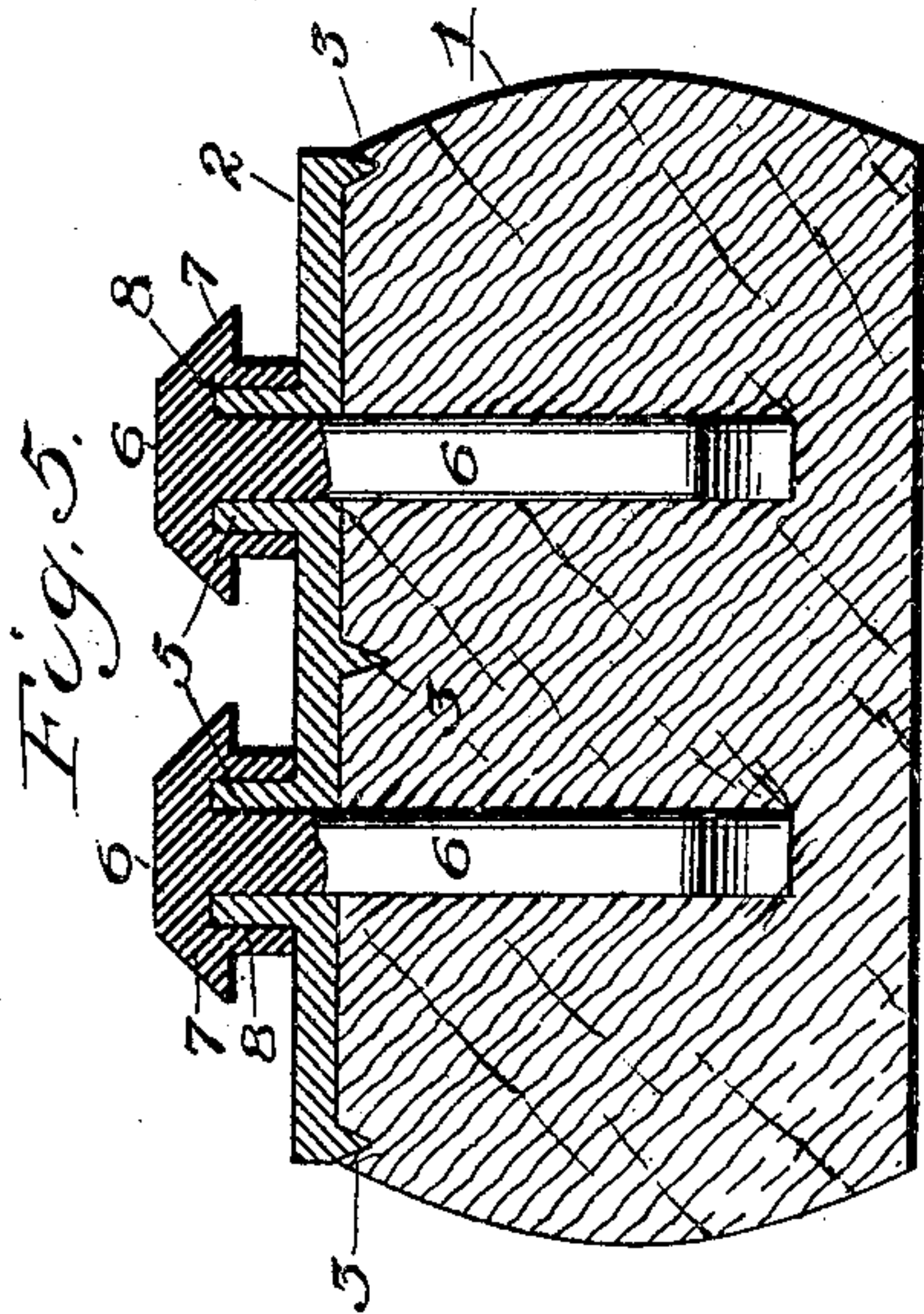


Fig. 5.

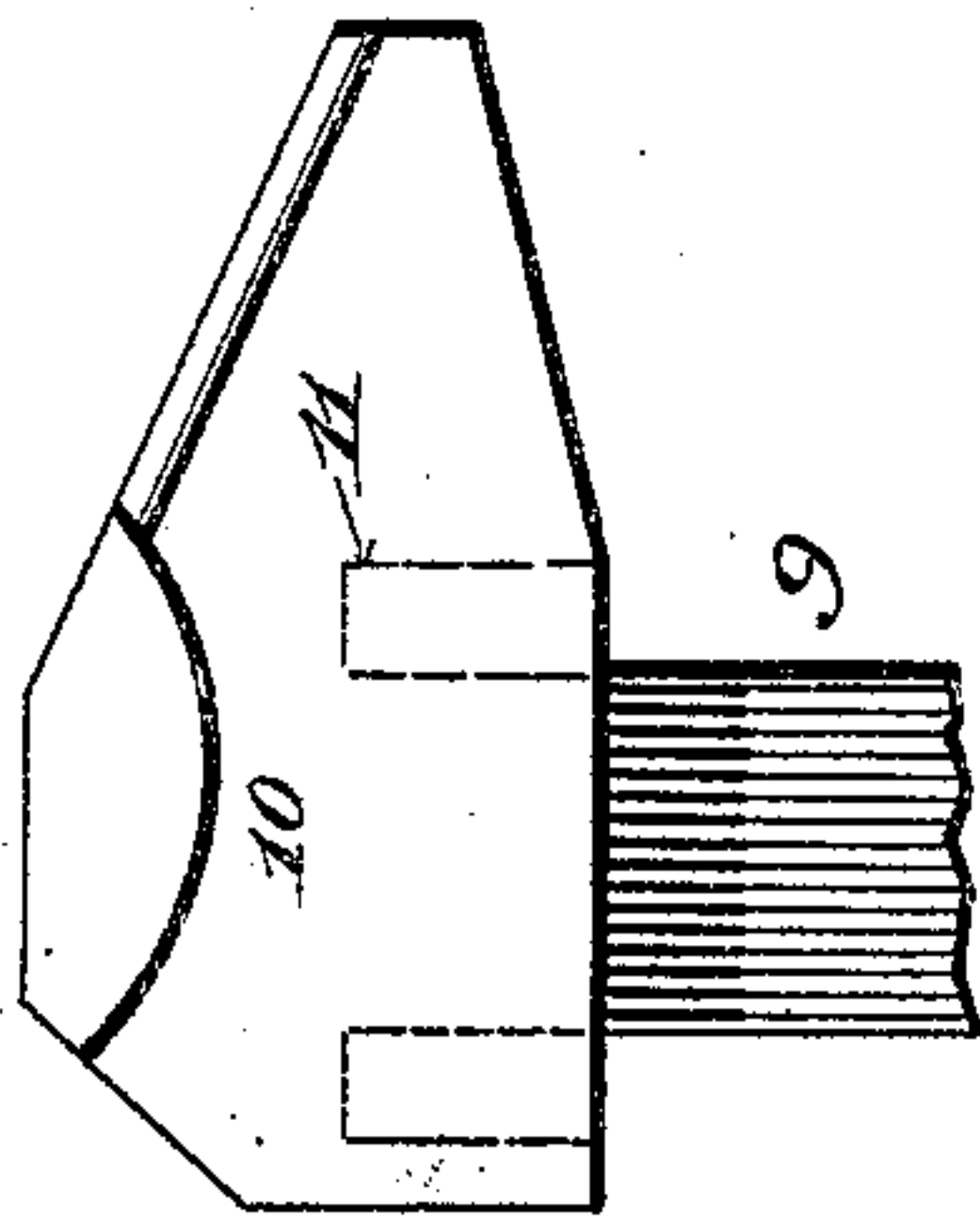


Fig. 6.

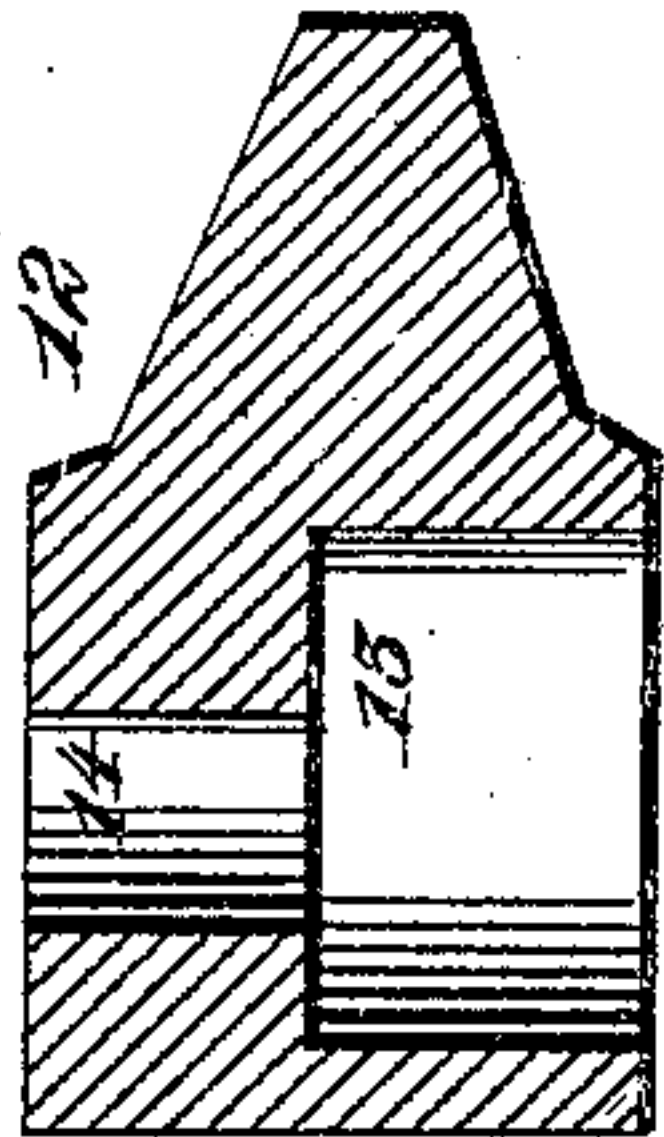


Fig. 7.

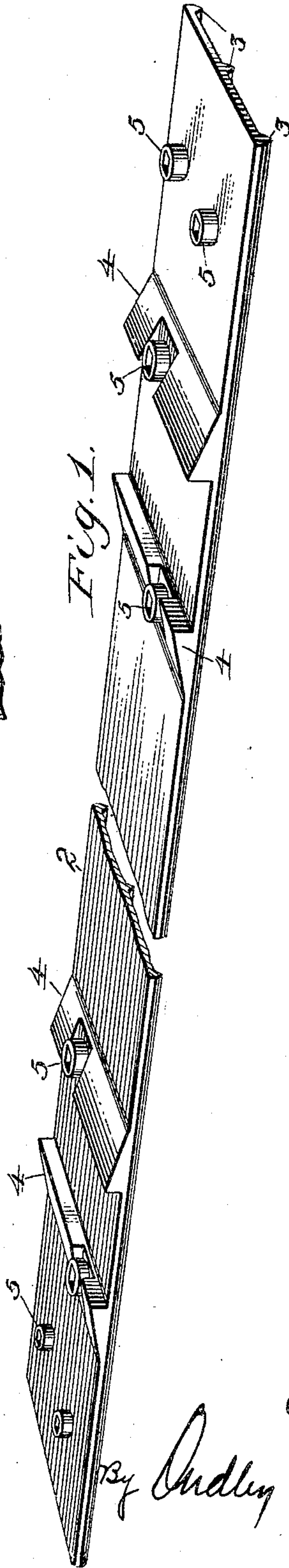


Fig. 1.

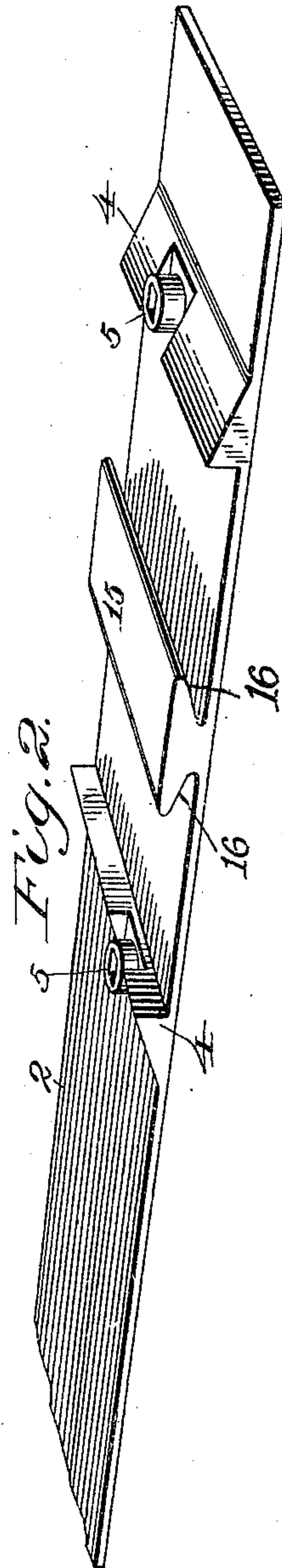


Fig. 2.

Witnesses  
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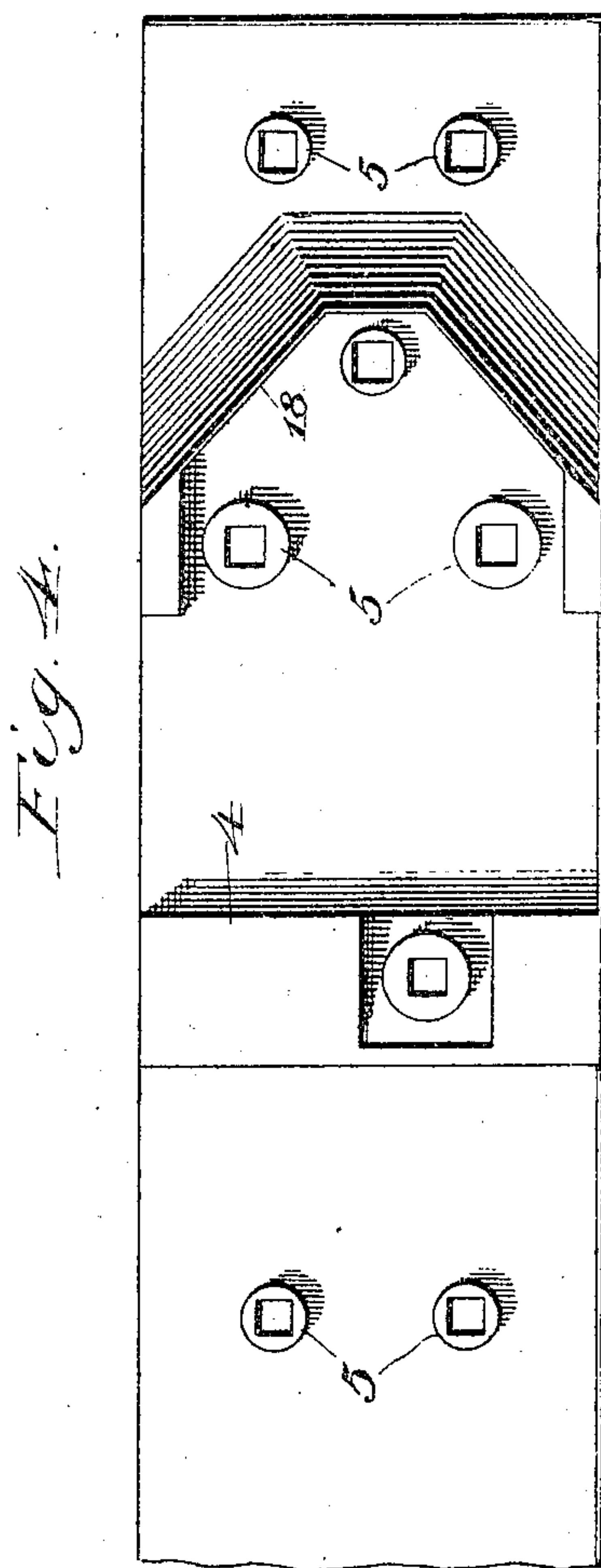
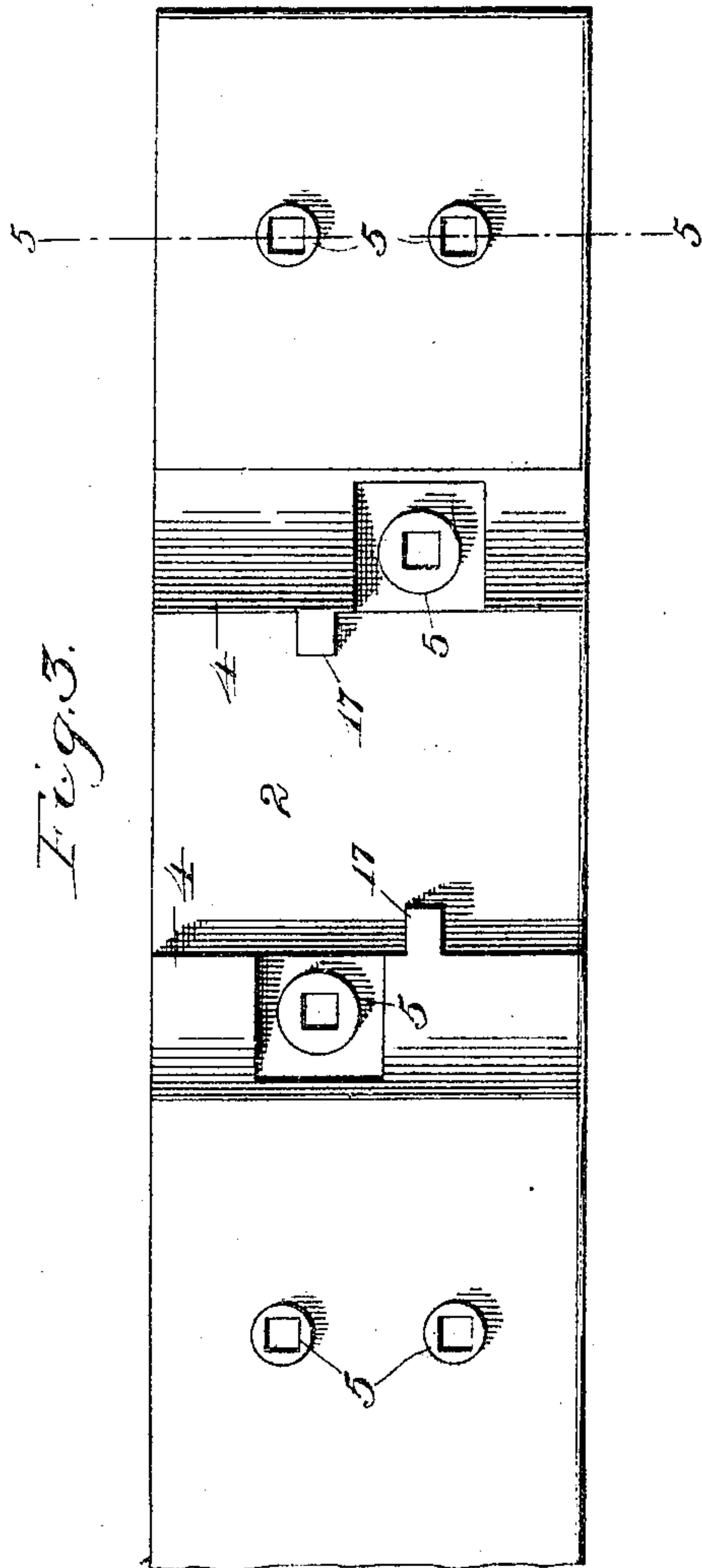
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2 SHEETS—SHEET 2.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## RAILWAY-TIE.

No. 798,155.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed May 11, 1905. Serial No. 259,984.

*To all whom it may concern:*

Be it known that I, GEORGE BEAL, a citizen of the United States, residing at Ramsey, in the county of Harrison and State of Indiana, have invented certain new and useful Improvements in Railway-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 ap-  
10 pertains to make and use the same.

This invention, which relates to railway-ties, has for its object the production of a tie-protecting plate adapted to be interposed between the top of the tie and the rails and  
15 serving to protect the tie against the action of the elements and affording an efficient fastener for holding the rails in place.

The nature of the invention will be readily comprehended, reference being had to the  
20 following description and to the accompanying drawings, illustrating the improvement in its preferred form of embodiment, it being understood that various changes and modifications may be made therein without exceeding the scope of the concluding claims.

In the drawings, Figure 1 is a perspective view of a tie-plate embodying the invention. Fig. 2 is a perspective view of one end of the plate having a modified construction. Figs.  
30 3 and 4 are plan views of plates made in accordance with the invention for use at different parts of the track. Fig. 5 is a sectional view on line 5 5 of Fig. 3. Fig. 6 is an enlarged elevation of one form of spike employed in connection with the plate and tie. Fig. 7 is a sectional view of a head adapted for use in connection with the bolt for secur-  
35 ing the plate and rails together.

Referring to the drawings by numerals, 1  
40 designates the ordinary wooden tie, the upper surface of which is covered by a plate 2, which constitutes the invention. The plate has the proper dimensions to completely cover the tie, whereby the latter is protected from the  
45 action of the rain and snow and from the rays of the sun, which tend to check or crack the tie. The plate may have on its under side V-shaped ribs 3 3, which enter the tie and assist the spikes in holding the plate in place.  
50 The plate is provided on its upper side with pairs of shoulders 4 4, each pair serving to confine the base of a rail. It will be understood that the plate extends the full length of

the tie, and by the provision of the shoulders spreading of the rails is effectually prevented. 55

The object of the invention is, as above stated, to protect the tie and prolong its life; but especially is this protection desired at the spike-holes, and to this end there is provided, in connection with the plate, a spike  
60 of peculiar form which coacts with a boss formed around the spike-hole of the plate to prevent the entrance of water around the spike. The bosses 5 5 may have any form and may extend above the top of the plate to  
65 any desired distance.

The plate-spikes 6 (shown in Fig. 5) each have a head 7, recessed at its under side, as at 8, to conform to the boss, with which it has a drive fit when the spikes are inserted. The  
70 spike 9 (shown in Fig. 6) is adapted to be driven through the top plate and into the tie adjacent to the rail, whereby to secure said rail. The head 10 of the spike is provided with a recess 11, similar to the recess 8 of the  
75 spike 5, and said head is elongated at one side to engage the base of the rail. The head 12 (see Fig. 7) has a recess 13 and a hole 14, through which passes a bolt. This form of  
80 fastening device is used in connection with a bolt where bolts are employed for securing the rails to the tie. Each of these fastening  
85 devices have laterally-projecting flanges to be engaged by a claw-bar when the spikes are to be withdrawn.

The plate shown in Fig. 2 is provided with shoulders 4 4, one of which serves to confine the base of a guard-rail. Between the shoulders is a projection 15 of dovetailed form, the  
90 recesses 16 serving to confine the adjacent sides of the bases of the main and guard rails, thus obviating the necessity for spikes between said rails. The tongues 17, projecting from the shoulders 4 of the plate shown in  
95 Fig. 3, are adapted to enter the spike-recesses in the ordinary fish-plate. The shoulder 18 of the plate shown in Fig. 4 serves to confine the foot of a rail-brace.

In practice where existing tracks are to be equipped with the improved plates the spikes  
100 are drawn, and the rails are either lifted or the ties depressed, and the plates are inserted between the ties and rails and are then fastened in place by the improved spikes. When  
105 in place, the plates completely cover the upper surface of the ties, thereby protecting the

latter, and by the employment of the bosses and peculiar form of spike all water is excluded from the spike-holes. The plates are fastened in place by the spikes 6 and 9, and  
5 the bosses, in addition to the function above described, serve to strengthen the plate at the bolt-holes.

I claim as my invention—

1. A railway-tie-protecting plate adapted  
10 to cover the tie and provided with shoulders to confine the bases of the rails and with holes at which are bosses, and plate and rail securing devices adapted to enter said holes and  
15 having heads recessed at their under side to receive said bosses for the purpose set forth.

2. A railway-tie-protecting plate adapted to cover the tie, and provided with shoulders to confine the outer edges of the bases of main and guard rails, and provided between said  
20 shoulders with a recessed projection to confine the inner edges of said bases, bosses at spike-holes in said plate and spikes each having a head recessed at its under side to receive said boss.

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

GEORGE BEAL.

Witnesses:

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