

M. I. YOUNG & G. M. ROBINSON.

RAILWAY TIE.

APPLICATION FILED AUG. 17, 1908.

907,939.

Patented Dec. 29, 1908.

FIG. 1.

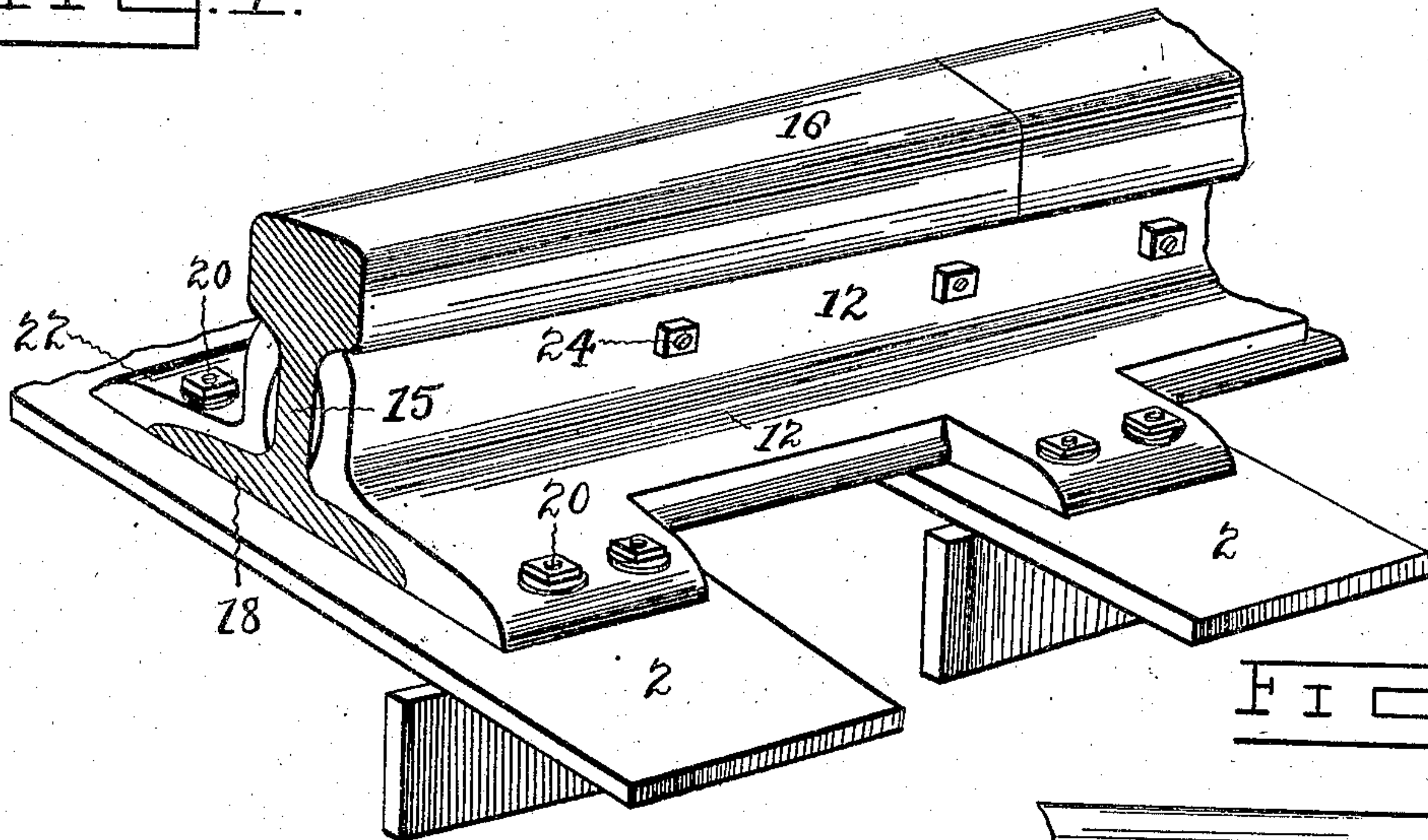


FIG. 4.

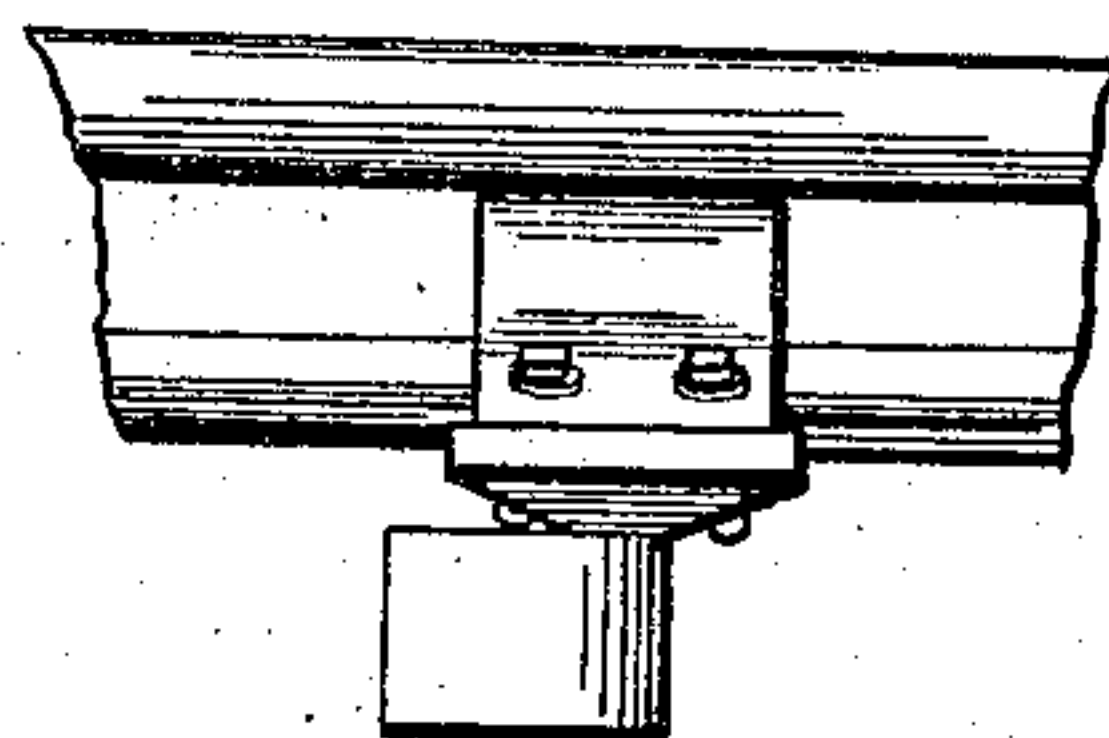


FIG. 2.

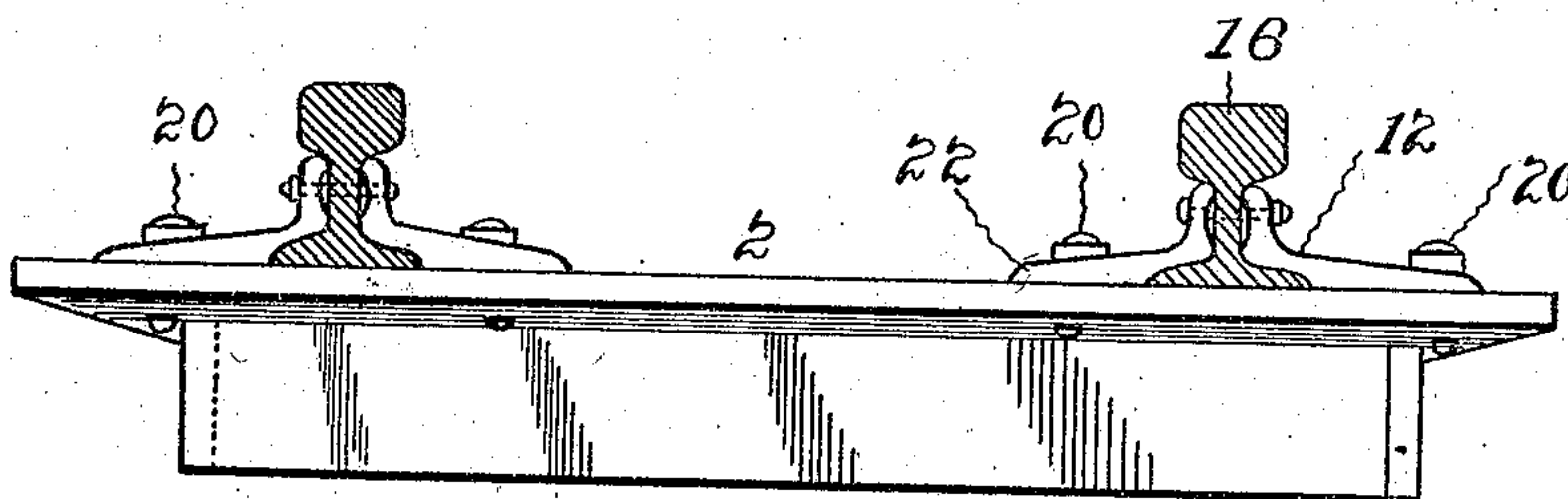
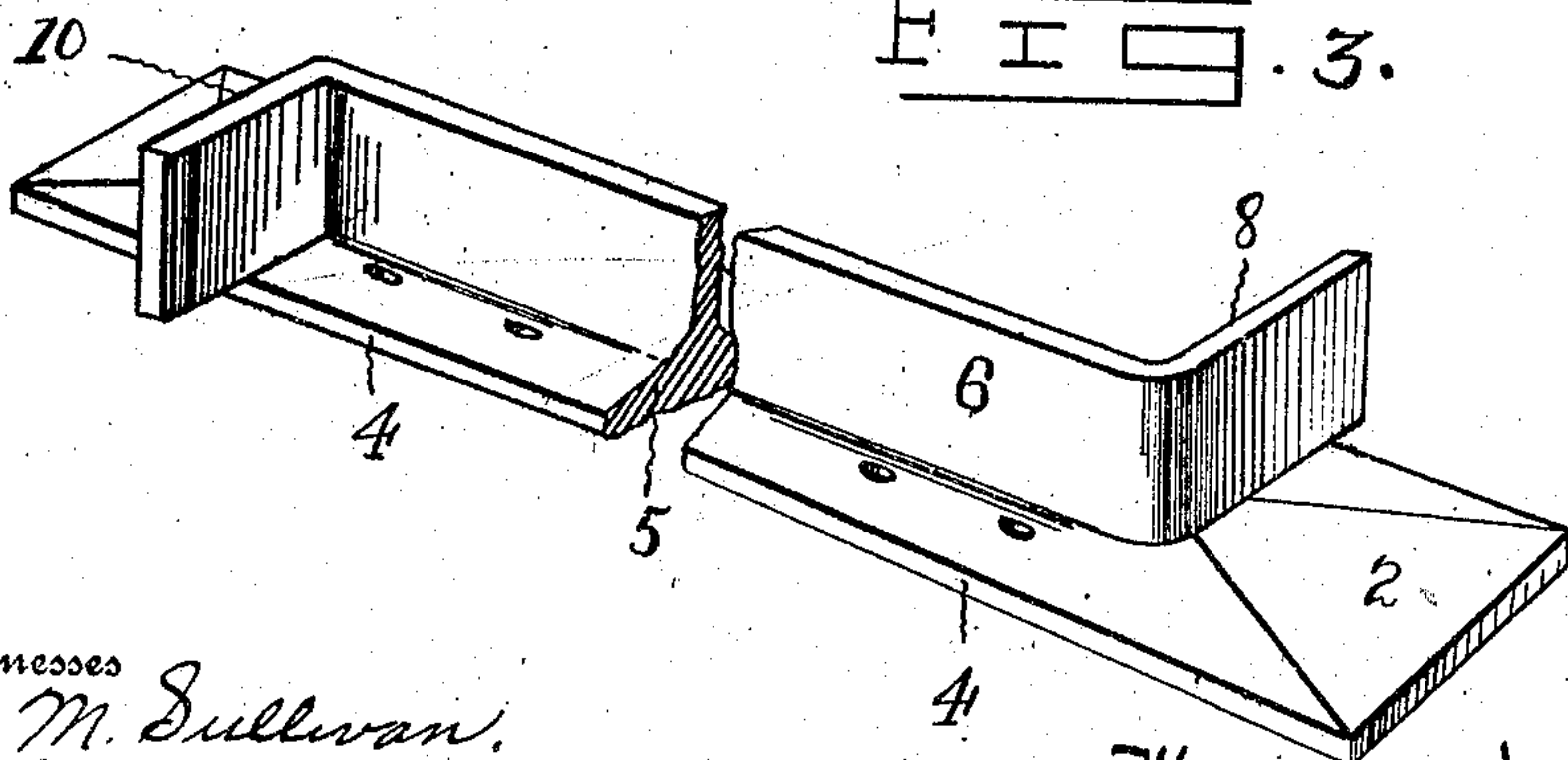


FIG. 3.



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# UNITED STATES PATENT OFFICE.

MARSHALL I. YOUNG, OF FORT DODGE, AND GEORGE M. ROBINSON, OF DUBUQUE, IOWA;  
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## RAILWAY-TIE.

No. 907,939.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed August 17, 1908. Serial No. 448,975.

*To all whom it may concern:*

Be it known that we, MARSHALL I. YOUNG and GEORGE M. ROBINSON, both citizens of the United States, said MARSHALL I. YOUNG  
5 residing at Fort Dodge, in the county of Webster and State of Iowa, and said GEORGE M. ROBINSON residing in the city and county of Dubuque, State of Iowa, have invented certain new and useful Improvements in  
10 Railway-Ties, of which the following is a specification.

Our invention relates to metal ties for railways with special reference to their mode of construction and manner in which the rails  
15 are secured to the ties; and has for its object to provide a metal tie which shall be exceedingly cheap in its construction, can be readily installed, cannot shift its position either longitudinally or transversely of the rails  
20 after it is set in the ground and also to provide means whereby the rail may be quickly and securely fastened upon the tie.

It consists of a flat top plate upon and to which the rails are secured by a peculiarly  
25 constructed fish plate and also consists in a flange secured to or integral with the top plate longitudinally along the middle of the under side of said top plate and bent near  
30 each end transversely.

The following specification when read with the drawings accompanying the same and forming a part hereof will point out the manner of construction and mode of assembling  
35 whereby the objects sought are fully accomplished.

Figure 1 is a perspective view of two ties with meeting rail ends secured on the ties by our peculiarly shaped fish plate. Fig. 2  
40 is a transverse section of the track and a side view of one of the ties. Fig. 3 shows a perspective view of a tie inverted. Fig. 4 is an end elevation of a tie and side elevation of the rail secured upon the tie.

Like characters of reference denote corresponding parts in each of the figures.

Referring to the drawings, 2 designates the top plate which is preferably made of steel and having its upper surface flat with the lower surface beveled from its outer edges 4  
50 toward its longitudinal center 5 leaving the edges entirely around the plate of substantially the same thickness.

Along on its longitudinal center of the under side is secured or formed integral there-  
55 with a vertical or downwardly extending

flange 6 which flange, a short distance from each end, is bent laterally at practically right angles to the length of the plate. The part or end 8 extends in one direction beyond the edge of the plate and the part 10 extends  
60 beyond the edge of the plate in the opposite direction as shown in Fig. 3.

It will be noticed that the bent portions 8 and 10 of the flanges are parallel with the rail and are underneath and just outside of  
65 the outer edge of the flange. If the rails be exceedingly heavy and adapted to support large loads, then the flanges may be bent so as to run directly under the center of the rail.  
70

In practice the top plate either rests upon the surface of the ground or is slightly embedded therein and the flange 6 is entirely buried in the ground with its ends 8 and 10  
75 projecting out beyond the sides of the plate one on one side and the other on the other. It will be readily understood that these flanges are to prevent not only longitudinal movement of the tie as a whole, but also any lateral movement in the direction of the  
80 length of the track. In addition to these functions it is obvious that the flange greatly strengthens the plate or tie and sustains the track in the same plane that it originally had as the top plate will prevent the track from  
85 sinking into the ground and the flanges will prevent any lateral movement. By bending the flanges at some distance from the ends of the tie, the tamping of the ground beneath the top plate may be done at the ends and  
90 in this manner made exceedingly firm.

For the purpose of anchoring the rail on this special tie and as a part hereof there is provided a peculiarly constructed "fish" or  
95 stay plate 12 which binds the entire rail as well as the meeting rail ends upon the ties near their outer ends. At the upper edge where it serves as a fish plate to unite the ends of the rails and hold them in the same line it is formed of about the thickness of the  
100 usual fish plate and rests against the web 15 beneath the tread 16 of the rail and extends a considerable distance along from each end of the united rails. It then extends along  
105 down the web and out upon and projects some distance beyond the flange 18 of the rail where it is bolted to the top plate 2 by bolts 20. This plate 12 extends longitudinally across two or more ties and not only serves to unite the rails together but con-  
110



iguous ties are united together wherever two meeting rail ends are connected together. Upon the opposite side of the rails a plate 22 similar to plate 12, though not necessarily extending so far beyond the flange of the rails, is bolted near the top by bolts 24 passing through the web of the rail and through the plate 12, firmly holding the united rail ends between the plates 12 and 22. The plates 22 are bolted by the bolts 20 to the top plate 2 beyond the edge of the flange 18 of the rail.

By this mode of construction of the tie and manner of setting the rails on the ties there is such a broad contact of the plates 12 and 22 with the rails and ties that there is practically little or no possibility of united movement of the rails, the plates and ties, nor of any one of them separately. It also is evident that if one of the bolts 20 or 24 became loose there would still be no danger of movement of the other members and further the rail ends are prevented from canting or twisting laterally. Thus it will be seen that the rail member, the plate or connecting member and the tie member form together a rigid and immovable structure.

Having now described our invention, what we claim, is—

1. In a device of the character described, a tie consisting of a flat top plate beveled on its under side from its edges towards its longitudinal center, and a downwardly projecting flange along said raised longitudinal center,

said flange bent laterally at some distance from its ends in opposite directions and the bent ends projecting beyond the longitudinal edges of the top plate, in combination with car rails, and means for connecting the meeting rail ends with two or more ties.

2. In a device of the character described, a tie consisting of a flat top plate beveled on its under side from its edges toward its longitudinal center and beveled from the ends of the plate a short distance leaving the edges around the plate of substantially the same thickness, a downwardly projecting flange secured to said plate along said raised longitudinal center, said flange bent laterally at some distance from its ends in opposite directions and the bent ends projecting beyond the longitudinal edges of the top plate, in combination with car rails, and means for connecting the meeting rail ends with two or more ties consisting of a plate on each side of the meeting rail ends said plates being bolted together through the webs of the rails and said plates bolted to two or more ties near the bent portion of the flanges of the ties.

In testimony whereof we affix our signatures, in presence of two witnesses.

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GEORGE M. ROBINSON.

Witnesses:

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