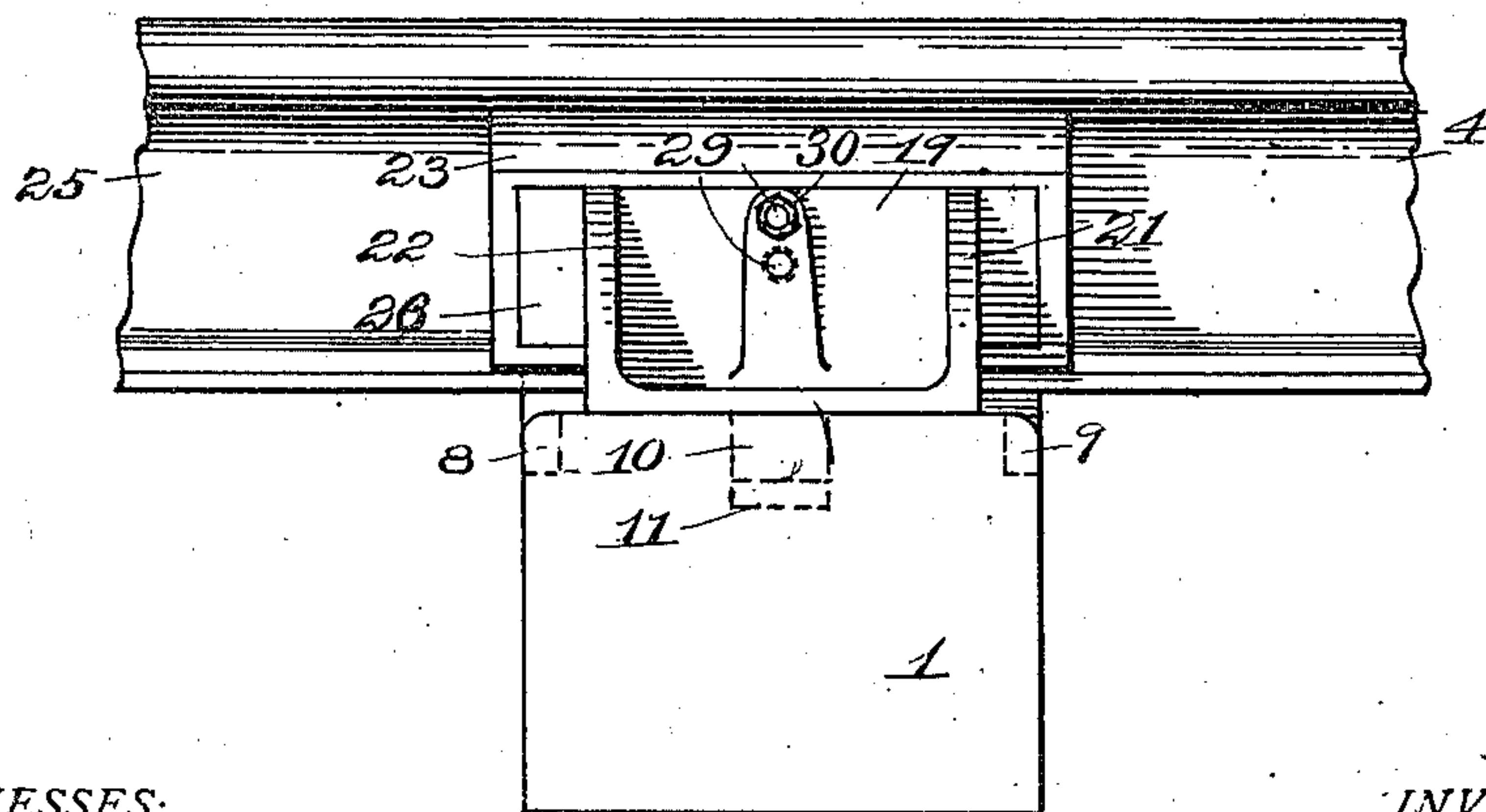
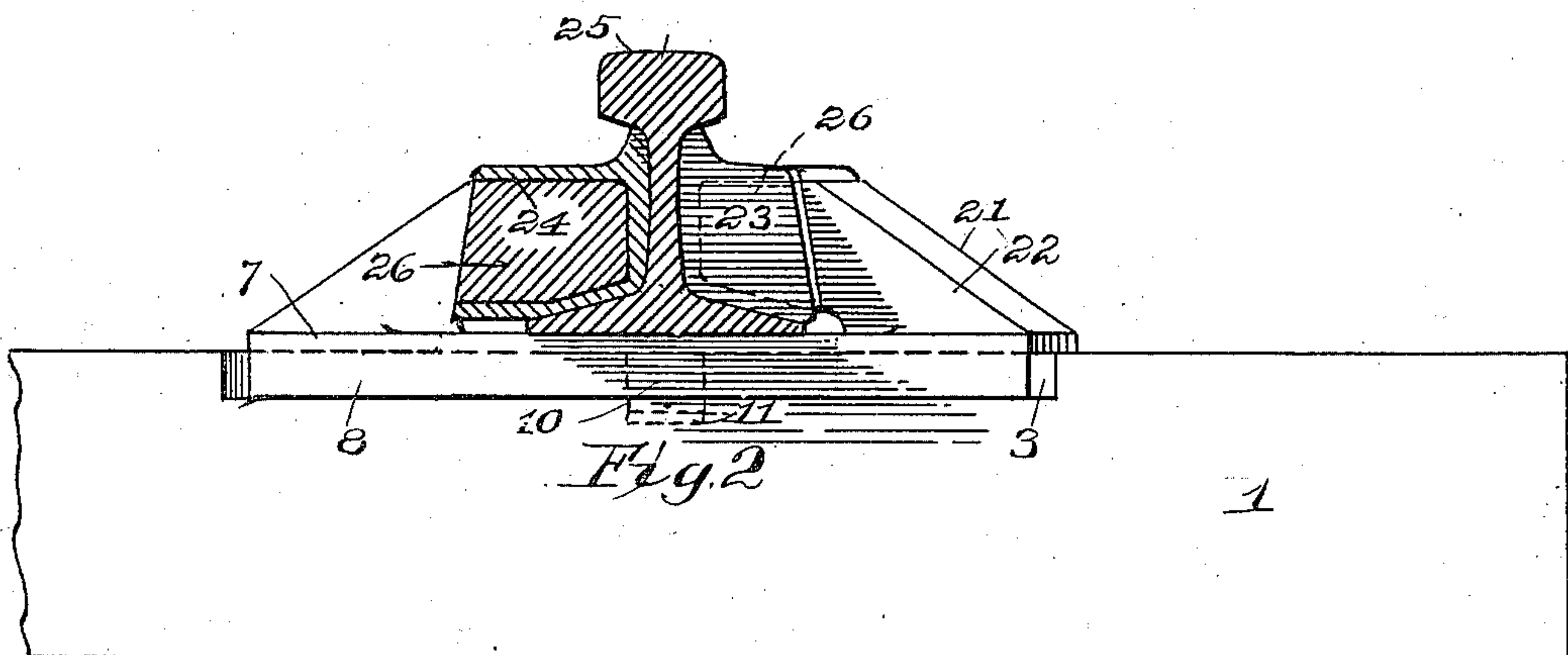
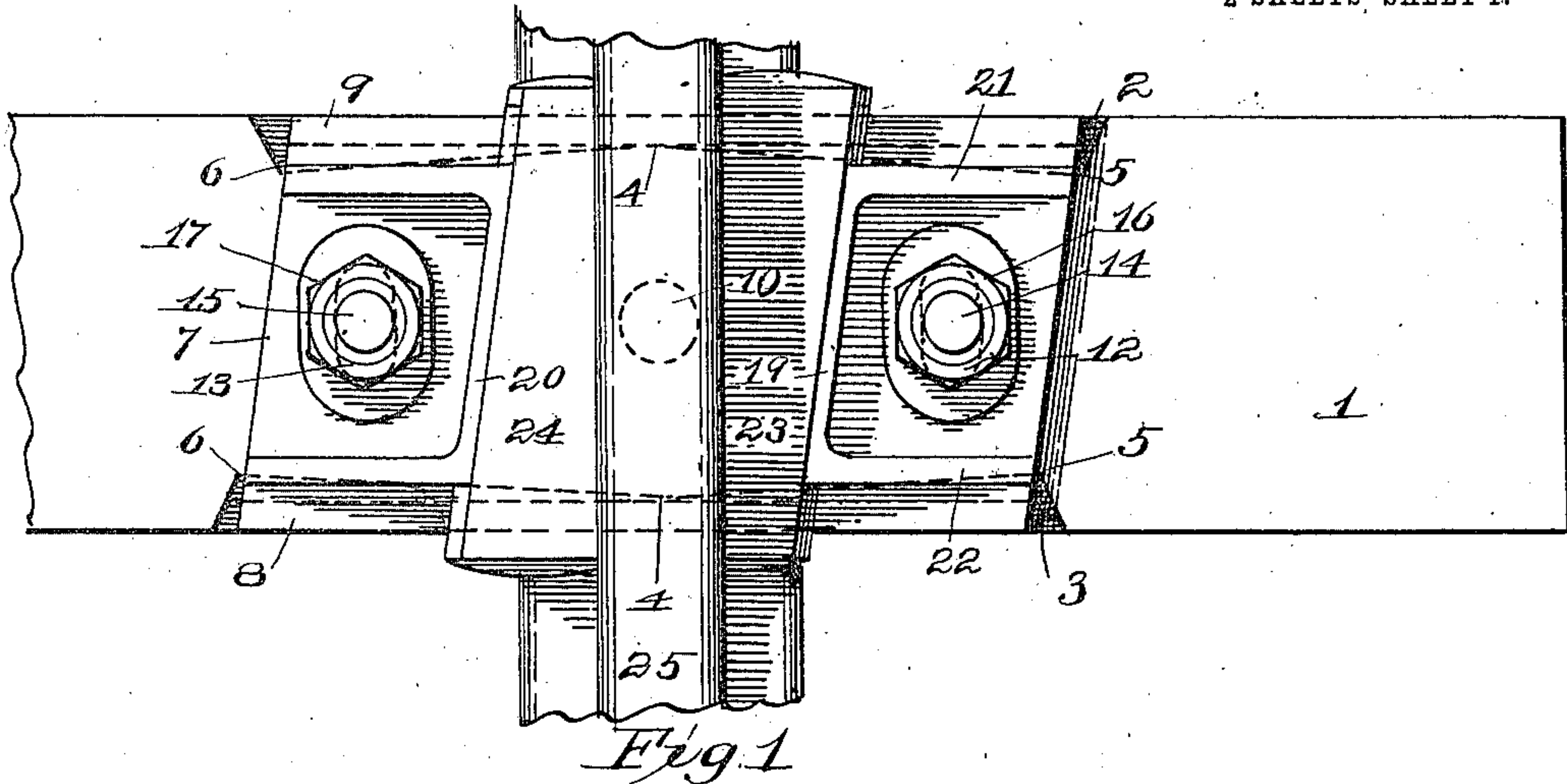


J. TIMMS.  
 DEVICE FOR SECURING RAILROAD RAILS TO TIES.  
 APPLICATION FILED JUNE 10, 1910.

996,685.

Patented July 4, 1911.

2 SHEETS—SHEET 1.



WITNESSES:

G. M. Gridley  
 L. C. Gridley.

INVENTOR.

James Timms

BY

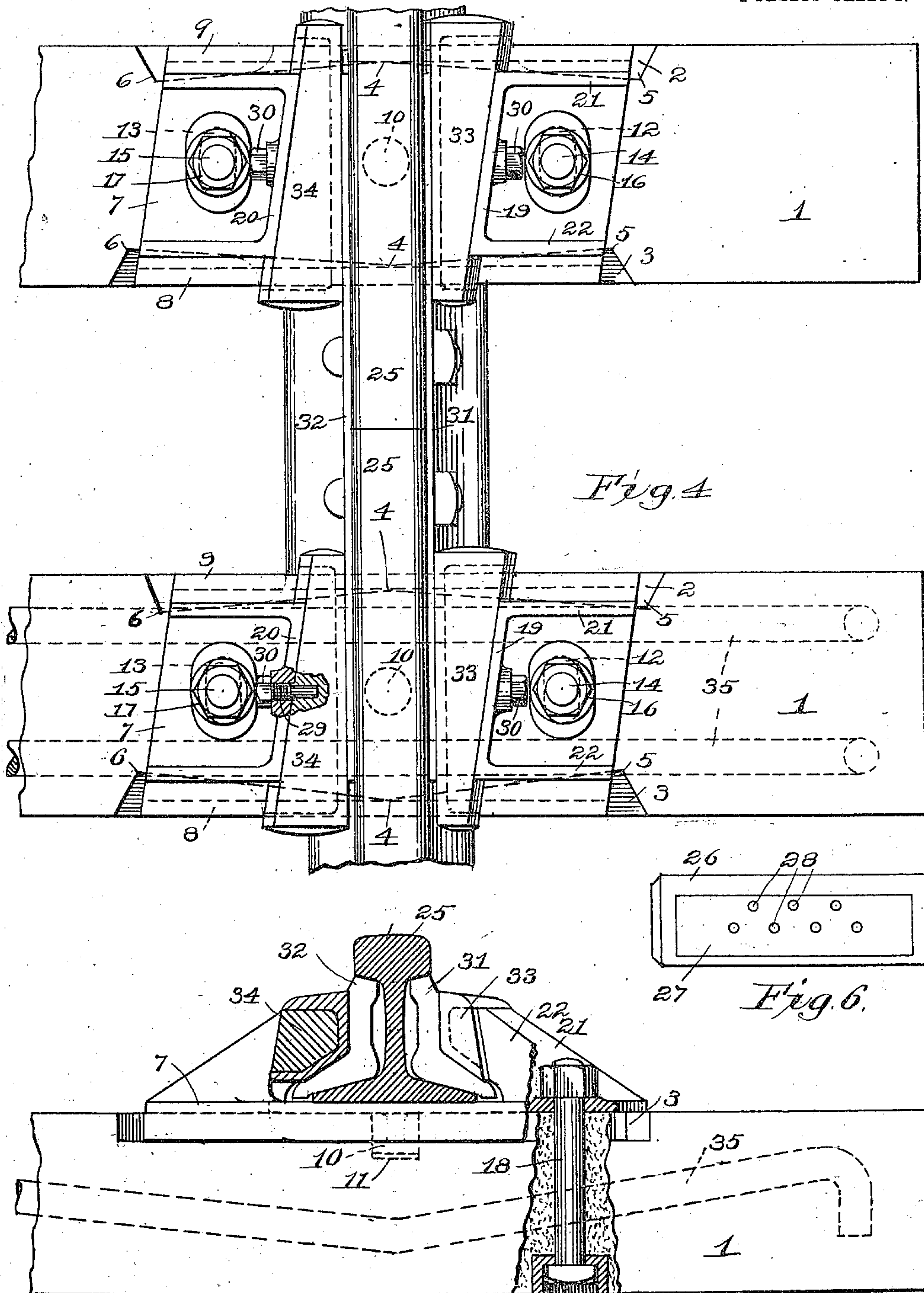
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Fig. 5

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# UNITED STATES PATENT OFFICE.

JAMES TIMMS, OF COLUMBUS, OHIO.

DEVICE FOR SECURING RAILROAD-RAILS TO TIES.

996,685.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed June 10, 1910. Serial No. 566,152.

*To all whom it may concern:*

Be it known that I, JAMES TIMMS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Devices for Securing Railroad-Rails to Ties, for which the following is a specification.

My invention relates to improvements in devices for securing railroad rails to ties, especially concrete or metallic ties in which the use of spikes for fixing the position of the rails is inexpedient or impracticable.

The invention includes, especially in combination with the metallic or concrete tie, a plate or bracket member adapted to be placed on the upper face of the tie on which the railroad rail is rested, and appropriate wedges are then driven securely between the side of the rail and up-standing flanges on the plate. The use of the fish plate may be dispensed with if desired. Provision is made for a pivotal connection between said bracket member and the tie, and flanges depending from the bracket member along the lateral faces of the tie are preferably made to fit into cut-outs in said faces, and the cut-outs are formed appropriately to permit the plate to have a limited rotary swing on the tie. Fastening devices for securing the plate or bracket member adjustably in position are provided. The bracket in this way may be adjusted to provide for varying positions of the wedges, or for deviations in the rail, so that at all times the clamping effect of the wedges upon the rail is at a maximum. The wedges are preferably formed of a metallic shell provided with a wood or other soft filler member which will exert great friction upon the rail or fish plate when positioned; and they may, if preferred, be secured at the desired position.

In the drawings which are hereto annexed and made a part of this specification, Figure 1 is a top view of a tie with the plate or bracket member thereon, and the rail secured thereto. Fig. 2 is a side view of Fig. 1, the rail being shown in vertical cross section. Fig. 3 is an end view of the plate or bracket member in position on the tie, the rail being shown in place. In Figs. 1, 2 and 3, fish plates are dispensed with. Fig. 4 shows a construction embodying the fish plates, and the fastening means for the wedge is shown in position, the adjacent

part being broken away. This figure is a top view covering two ties. Fig. 5 is a side view of Fig. 4, the rail being shown in vertical cross section, and the means of positioning the plate securing bolt in the tie being also shown. Fig. 6 is a side view of one of the wedges employed to secure the rail to the plate.

Referring to the drawings, 1 is a tie, preferably metallic or concrete, having on its side faces cut-outs 2 and 3, which are somewhat beveled in form, receding gradually from a point indicated by 4 to the points 5 and 6, whereby the cut-outs are deeper at their ends than they are at the middle points. The purpose of this will presently be disclosed. The form of the cut-outs on both faces of the tie is the same, and as will be seen by reference to Fig. 4, the cut-outs there are formed the same as they are in Fig. 1. A plate or bracket member 7 is positioned upon the upper face of the tie, and the side flanges 8 and 9 are positioned in the cut-outs 2 and 3, being normally in contact therewith at the middle point 4, but standing away from the walls of the cut-outs in the region of the points 5 and 6. The plate 7 has a boss or lug 10 formed on the lower face thereof adapted to fit loosely in an opening 11 made in the upper face of the tie 1. When the plate is thus positioned it has a limited rotary or swinging movement permitted by the form of the cut-outs 2 and 3, so that the side flanges of the plate 7 may be so adjusted as to form an angle with the side faces of the tie 1.

Through the plate at 12 and 13 are formed slotted openings through which bolts 14 and 15, provided with appropriate nuts 16 and 17, are placed, and appropriately embedded in the tie, as appears in Fig. 5 where the bolt is designated as 18. The method of positioning the bolt may be varied if desired. When the nut is loose on the bolt the plate may be rotated within a limited range upon the lug or boss 10, and when the plate is positioned as desired the nut may be tightened, whereupon the plate will maintain its position until change is desired.

Formed on the upper face of the plate 7 are upstanding flanges 19 and 20 strengthened by the flanges 21 and 22. Wedge members 23 and 24 are provided, and when the rail 25 is positioned on the plate 7 the wedge members may be driven between the flanges



19 and 20, and the side or web of the rail, as appears clearly in Fig. 2. These wedge members not only secure the rail in place, but also permit adjustment when the bearings of the rail have become worn, as they are prone to do under conditions prevailing in service. The adjustment thus provided for by the use of the wedges in connection with that provided for by the construction of the tie and plate, render it possible to secure the rail firmly under all conditions of use, adjusting and adapting the device to the change in conditions. The wedge as shown in Fig. 6 may be formed of the chambered metallic member or shell 26 with the wood filler 27. The openings 28 formed in the filler portion are adapted to receive the set screw 29, as shown in position with adjoining parts broken away at 30 in Fig. 4. Other ways of fixing the position of the wedge may be resorted to if desired. The advantages of a wedge thus constructed are several:—The rail, in its vibrations due to service, is somewhat cushioned, and to a perceptible degree an elastic side bearing therefor is provided; the sound produced by passing trains is lessened; and the wedge tends to grip the rail or fish plate with its wooden surface.

In Figs. 4 and 5 a construction is shown embodying fish plates 31 and 32, in which case wedges 33 and 34 are not required to be so thick as in Fig. 2, but the function of the wedges is the same, and they are formed in practically the same manner. A reinforcing rod is shown at 35, but this feature of concrete construction is well known and need not be further noticed.

The essential features of my above described device are seen to be the adjustable plate or bracket member containing provision for positioning wedges between the same and the rail, so that by this combination of features the bearing of the rail is adjustable under all conditions of service, rendered so by appropriately cut out side faces on the tie to permit a rotary movement of the side flanges on the plate; and the construction of wedges above set forth.

Although I have described my invention as applied to a concrete or metallic tie, and it is probable its chief use will be in connection with such structures, yet it may be applied to a wooden tie, and I therefore do not confine its application herein.

Variations may be made in the construction to accomplish the above described pur-

poses, and I limit myself only by the scope of the appended claims.

What I claim is—

1. In combination with a railroad tie, a railway rail, devices for securing said rail to said tie comprising a bracket member on said tie and adjustable thereon when said rail is in place, and wedge members adapted to be forced between said bracket member and said rail on each side thereof.

2. In combination with a railroad tie, a railway rail, devices for securing said rail to said tie comprising a bracket member on said tie supporting said rail and adjustable thereon when said rail is in place, a pivotal member on said bracket member engaging said tie, and wedge members adapted to be forced between said bracket member and said rail on each side thereof.

3. In combination with a railroad tie, a railway rail, devices for securing said rail to said tie comprising a bracket member on said tie secured thereto to swing rotatably thereon, said tie being cut away to permit said movement, and wedge members adapted to be forced between said bracket member and said rail on each side thereof.

4. A railroad tie having cut-outs on its side faces, a plate thereon having depending flanges adapted to engage the faces of said cut-outs, up-standing flanges on said plate, a rail positioned on said plate, and wedges adapted to be forced between said up-standing flanges and said rail for securing the same together.

5. A railroad tie, a plate mounted rotatably on the upper face thereof and adjustably secured thereto and having flanges overhanging the side faces of said tie, a railroad rail bearing upon said plate, and means for securing said rail and plate together.

6. A railroad tie, a plate mounted rotatably on the upper face thereof and adjustable thereon when a railroad rail is in place on said plate, a railroad rail bearing upon said plate, and means for securing said rail and plate together.

7. In combination with devices for securing a rail to a tie, a wedge comprising a shell member and a softer filler member held therein.

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

JAMES TIMMS.

Witnesses:

GEO. W. RIGHTMIRE,  
WM. HERBERT PAGE.