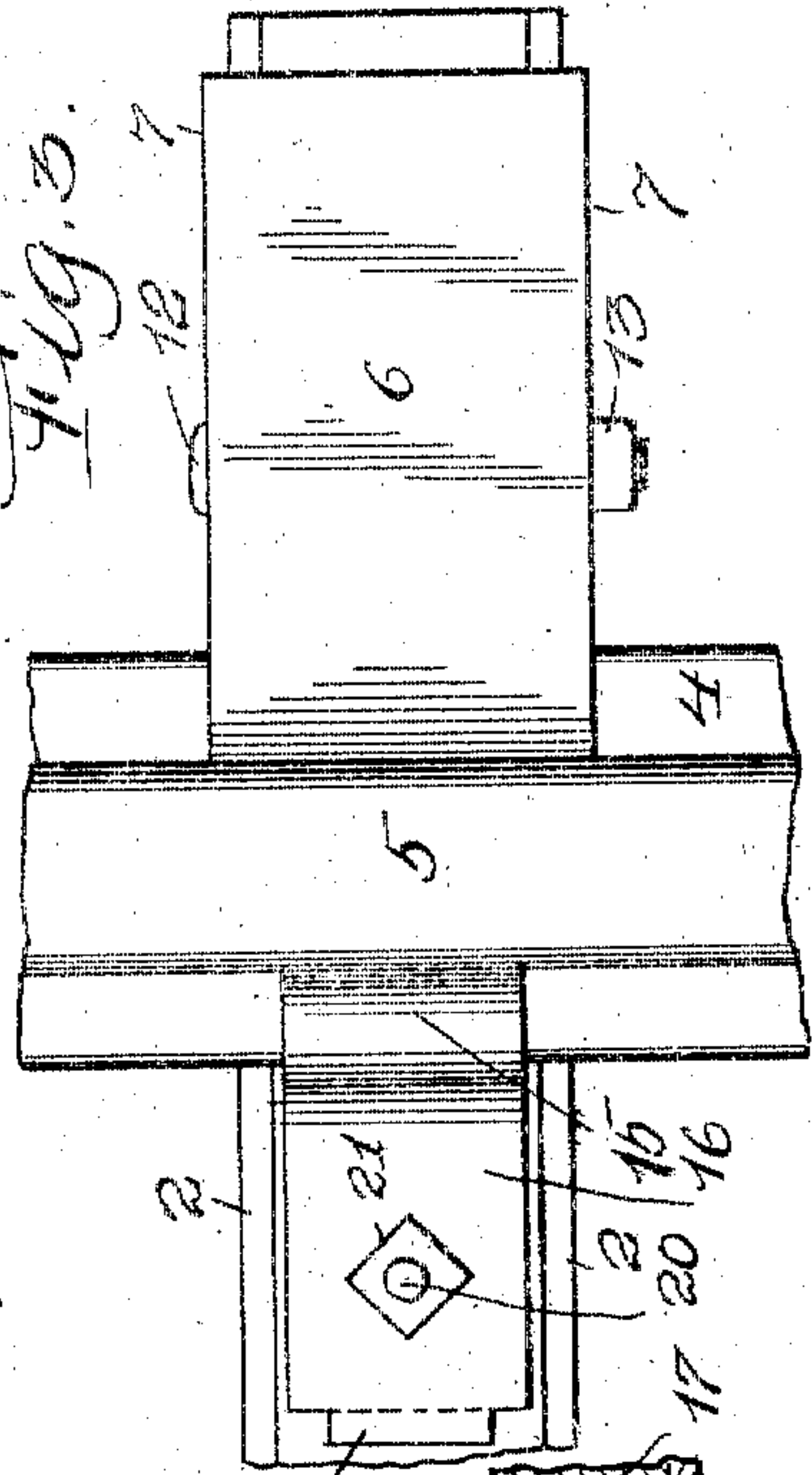


994,549.

Fig. 1.

**WITNESSES**

WITNESSES  
*Samuel Payne*  
*W. H. Butler*



10/1/74

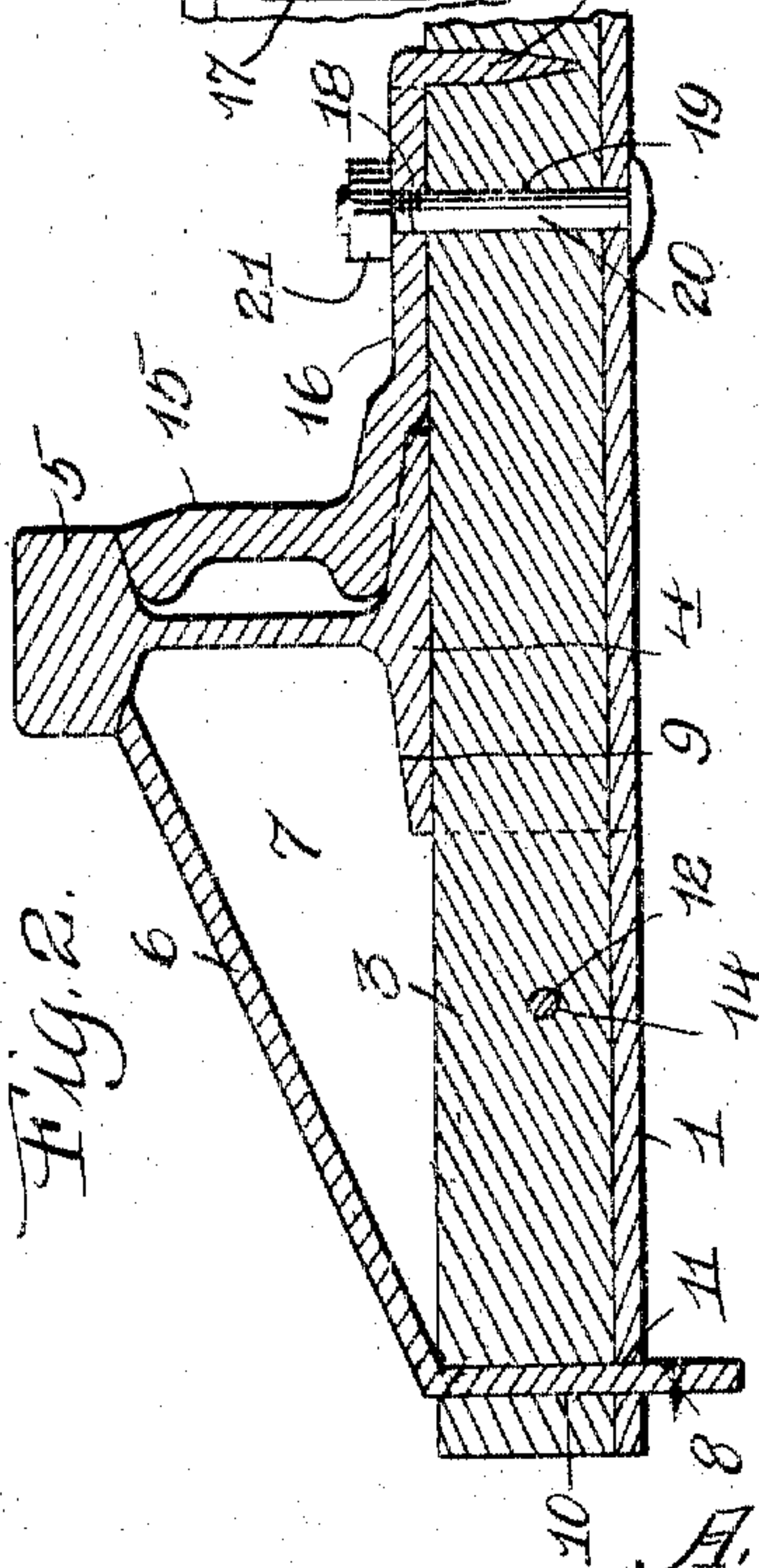


Fig. 2.

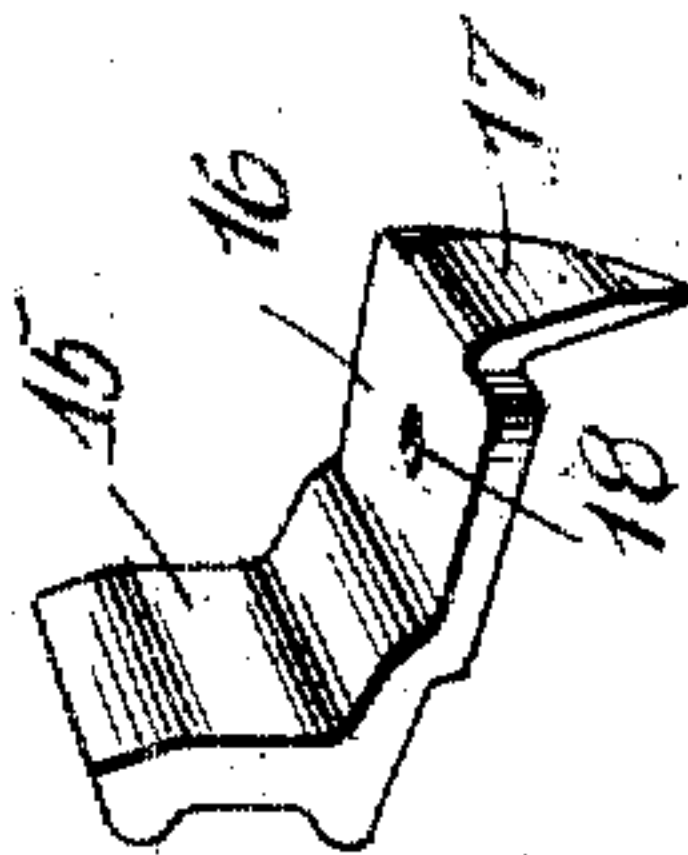


Fig. 5.

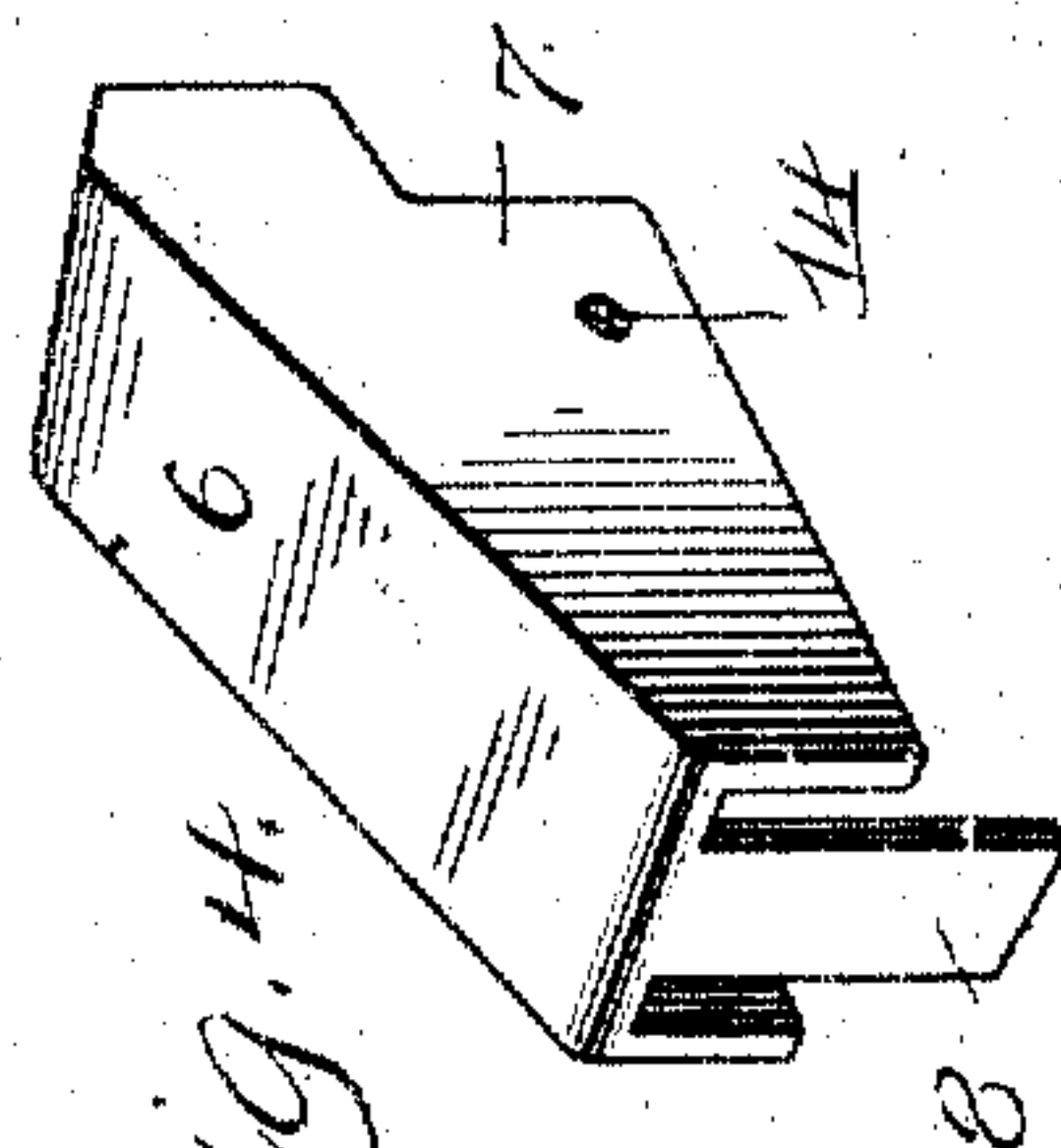


Fig. 4.

**INVENTOR**

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# UNITED STATES PATENT OFFICE.

AMBROSE WILLIAMS, OF ELIZABETH, PENNSYLVANIA.

METALLIC TIE AND RAIL-FASTENER.

994,549.

Specification of Letters Patent. Patented June 6, 1911.

Application filed December 24, 1910. Serial No. 599,163.

*To all whom it may concern:*

Be it known that I, AMBROSE WILLIAMS, a citizen of the United States of America, residing at Elizabeth, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a metallic tie and rail fastener, and the objects of my invention are to obviate the necessity of using wooden ties and sleepers for supporting rails, and to provide a strong and durable metallic tie that can be easily tamped and laid upon the ballast of a roadbed.

Other objects of my invention are to furnish a metallic tie with a simple and durable rail fastener that will prevent vertical displacement of rails mounted upon the tie, and to provide a rail fastener that can be quickly installed by unskilled labor.

Further objects of the invention are to provide a metallic tie and rail fastener that will allow for the expansion and contraction of the rails, and to provide a rail fastener or brace that can be advantageously used for bracing the outer rails upon a curved section of track.

I attain the above objects by a mechanical construction that will be presently described in detail and then claimed, and reference will now be had to the drawing, wherein like numerals of reference designate corresponding parts throughout the several views, in which:—

Figure 1 is a side elevation of the metallic tie and rail fastener, partly broken away, Fig. 2 is a longitudinal sectional view of a portion of the tie and rail fastener, Fig. 3 is a plan of the same, Fig. 4 is a perspective view of a detached outer fastener, and Fig. 5 is a similar view of a detached inner fastener.

A tie in accordance with this invention comprises a channel-shaped bar having a base plate 1 and side walls 2. Mounted in the bar and extending from one end thereof to the opposite end is a wooden block 3 protruding slightly above the upper edges of the walls 2 to support the base flanges 4 of rails 5, the block preventing the rails from contacting with the upper edges of the walls 2 and thereby relieving to a certain degree the vibratory strains set up between the rails

and the tie by rolling stock passing over the same.

An outer fastener is used at each end of the tie, said outer fastener comprising an inclined plate 6 having side walls 7 and a depending tongue 8, said side walls having the forward edges thereof cut away, as at 9 to engage the base flange 4 and the web of the rail, the side walls 7 extending downwardly upon the outer sides of the walls 2, and the tongue 8 extending through alining openings 10 and 11 provided therefor in the block 3 and the base plate 1 of the tie. The lower end of the tongue 8 is adapted to engage in the ballast of a roadbed and prevent the tie from sliding or becoming displaced. The side walls 7 are adapted to be held in engagement with the side walls 2 by a transverse bolt 12 and a nut 13, said bolt extending through alining openings 14 provided therefor in the walls 7 and 2 and the block 3 of the tie.

The inner rail fastener comprises a clamp 15 adapted to engage the inner base flange and the head of the rail 5, said clamp having a lateral extension 16 provided with a depending V-shaped prong 17 adapted to be driven into the wooden block 3. The lateral extension has a vertical opening 18 adapted to aline with a similar opening 19 in the block 3 and the base plate 1, whereby a bolt 20 can be mounted in said openings and retained therein by a nut 21 screwed upon the upper end of the bolt.

In lieu of the wooden block 3 any other yieldable material can be employed, and it is thought that the manner of assembling the fastener upon the tie will be apparent without further description, and while in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements thereof are susceptible of such changes as fall within the scope of the appended claims.

What I claim is:—

1. In a metallic tie and rail fastener, the combination with rails, of a channel bar, a wooden block arranged in said bar and extending from one end thereof to the opposite end and adapted to support said rails above the upper edges of said channel bar, outer rail fasteners adapted to brace the outer sides of said rails and having depending walls upon the outer sides of said channel bar, a tongue carried by each of the outer rail fasteners, and extending through said



block and said bar, means arranged transversely of said block and adapted to retain said outer rail fasteners in engagement with said bar, inner rail fasteners adapted to  
5 engage the inner sides of said rails, a depending prong carried by each fastener and adapted to engage in said block, and means arranged vertically of said block and adapted to retain said inner fasteners in en-  
10 gagement therewith.

2. In a metallic tie and rail fastener, the combination with rails, of a channel bar, a block arranged in said bar and extending from one end thereof to the opposite end  
15 and adapted to support said rails, outer rail fasteners adapted to engage the outer sides of said rails and having depending tongues

extending through said block and said bar, means including a bolt arranged transversely of said block and adapted to retain  
20 each outer rail fastener in engagement with said tie, inner rail fasteners mounted upon said block and adapted to brace the inner sides of said rails and having depending prongs adapted to engage in said block, and  
25 means including a bolt extending through said block and adapted to retain each inner fastener thereon.

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

AMBROSE WILLIAMS.

Witnesses:

MAX H. SROLOVITZ,  
KARL H. BUTLER.