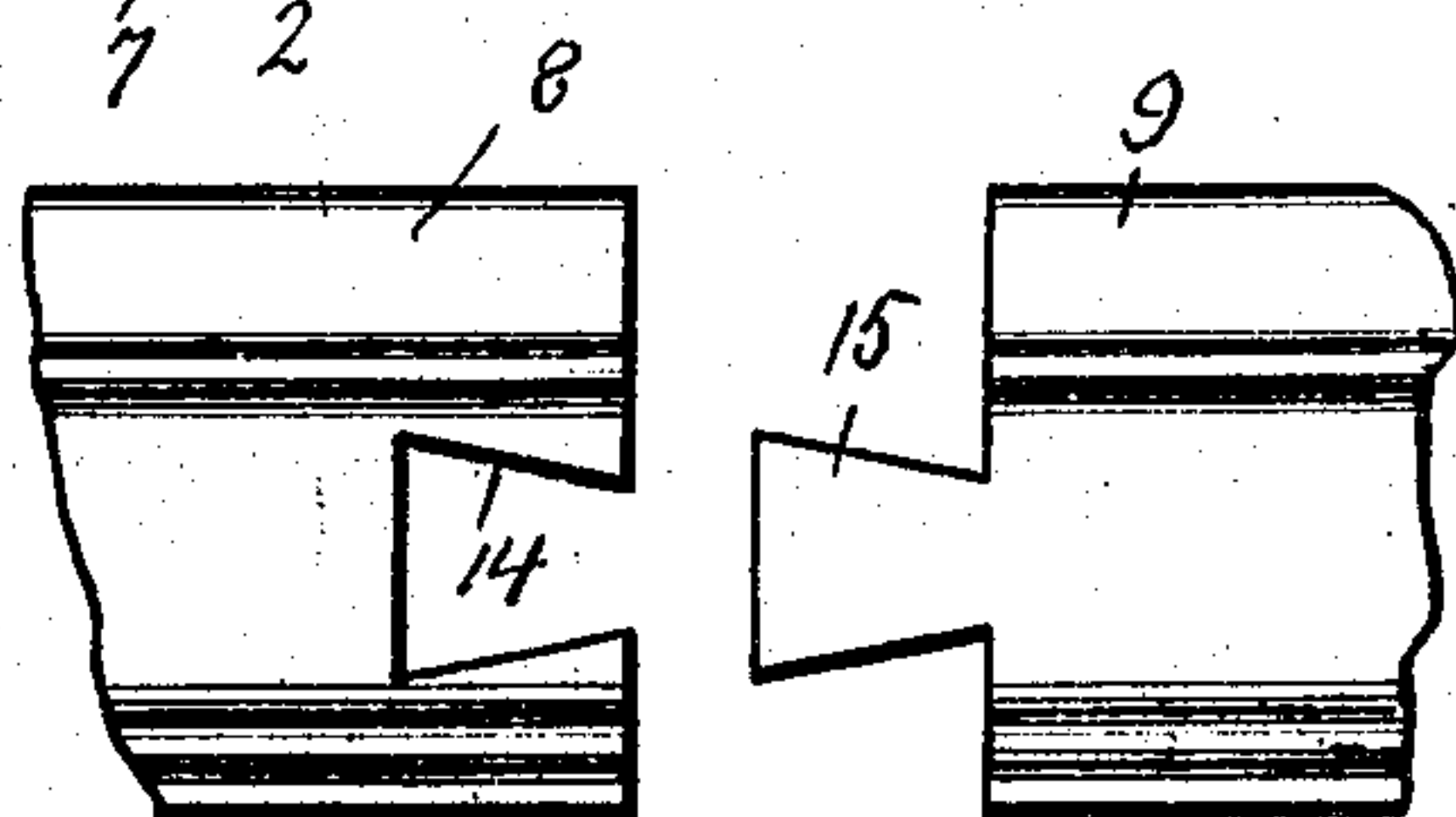
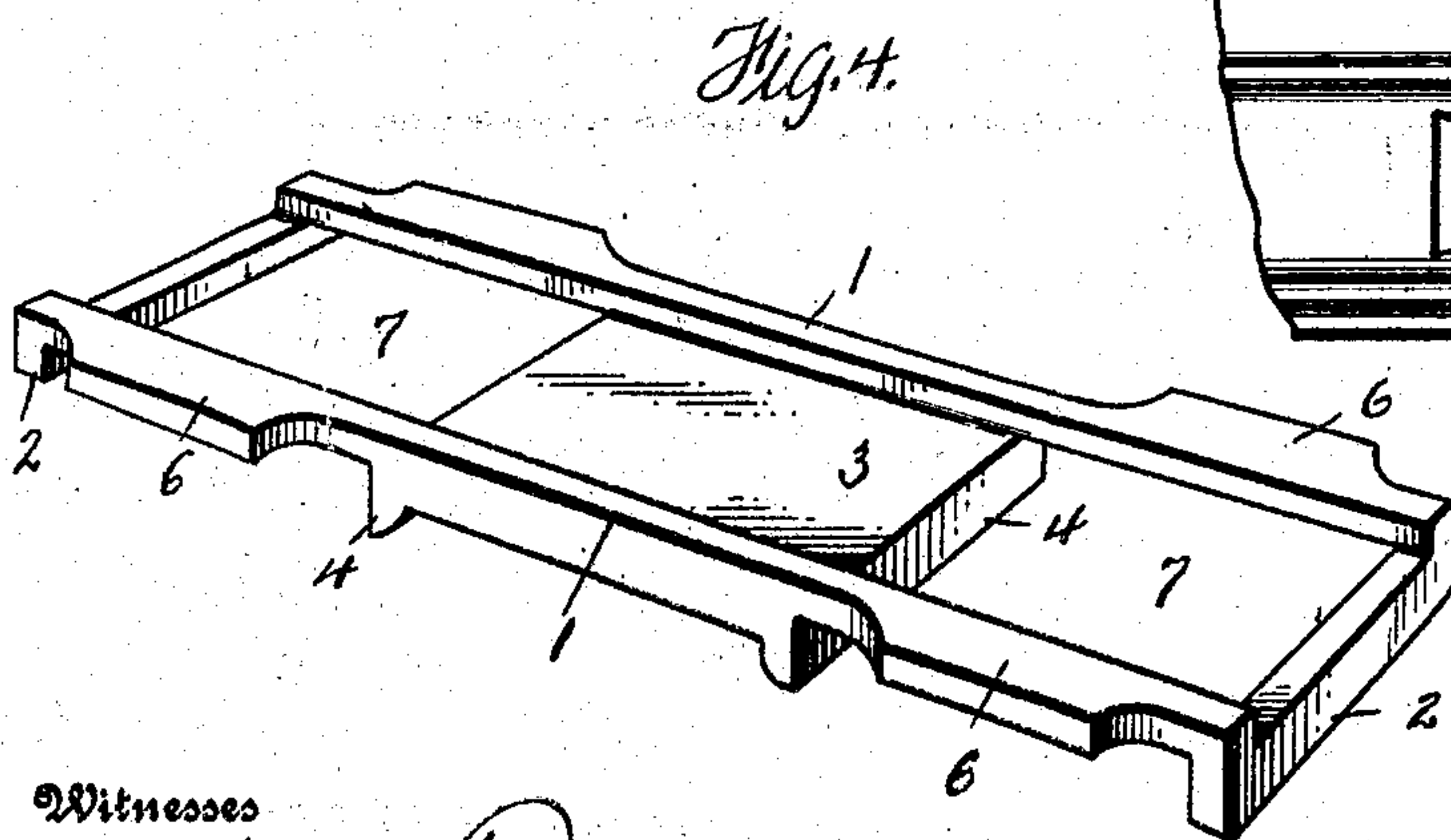
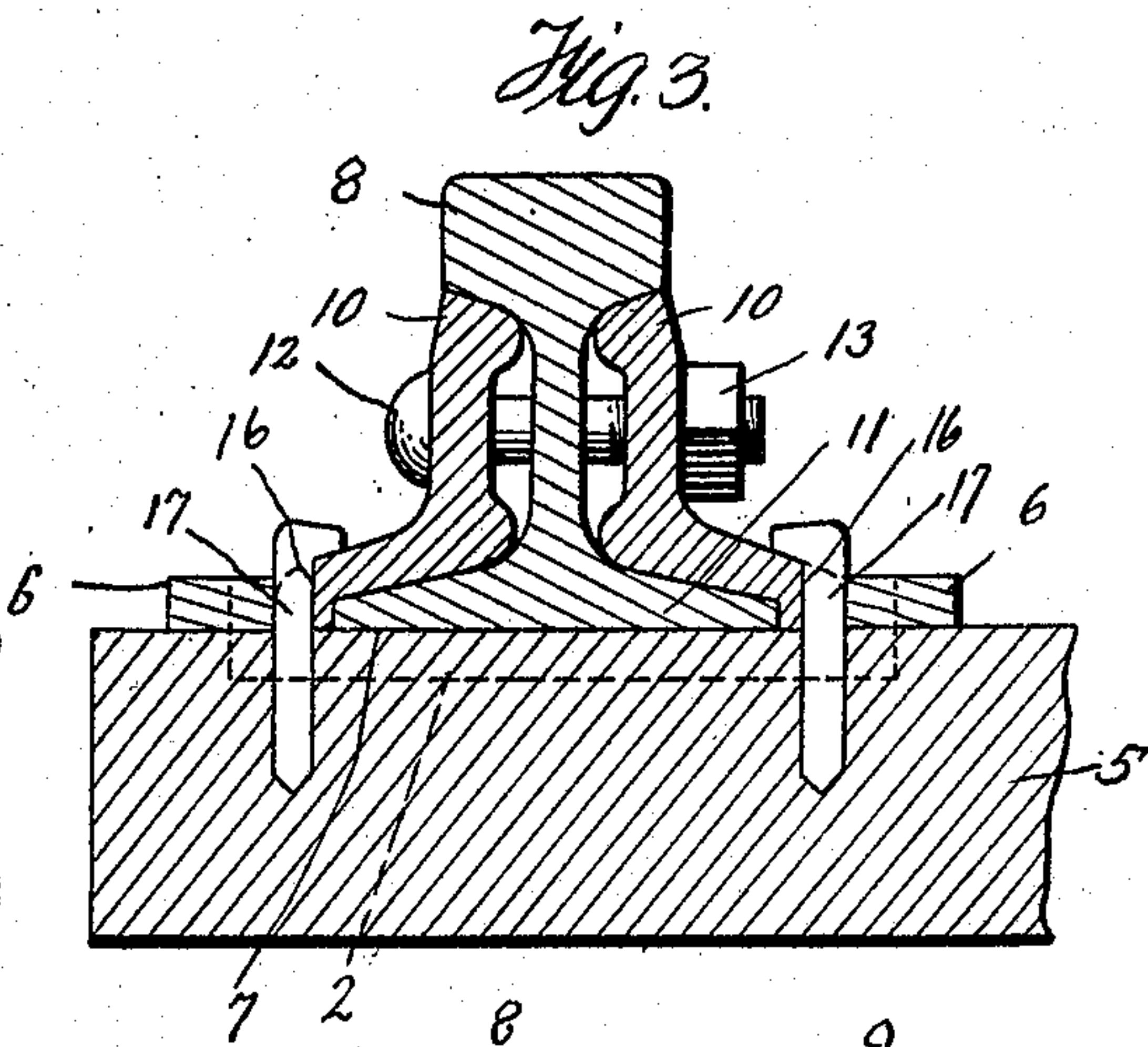
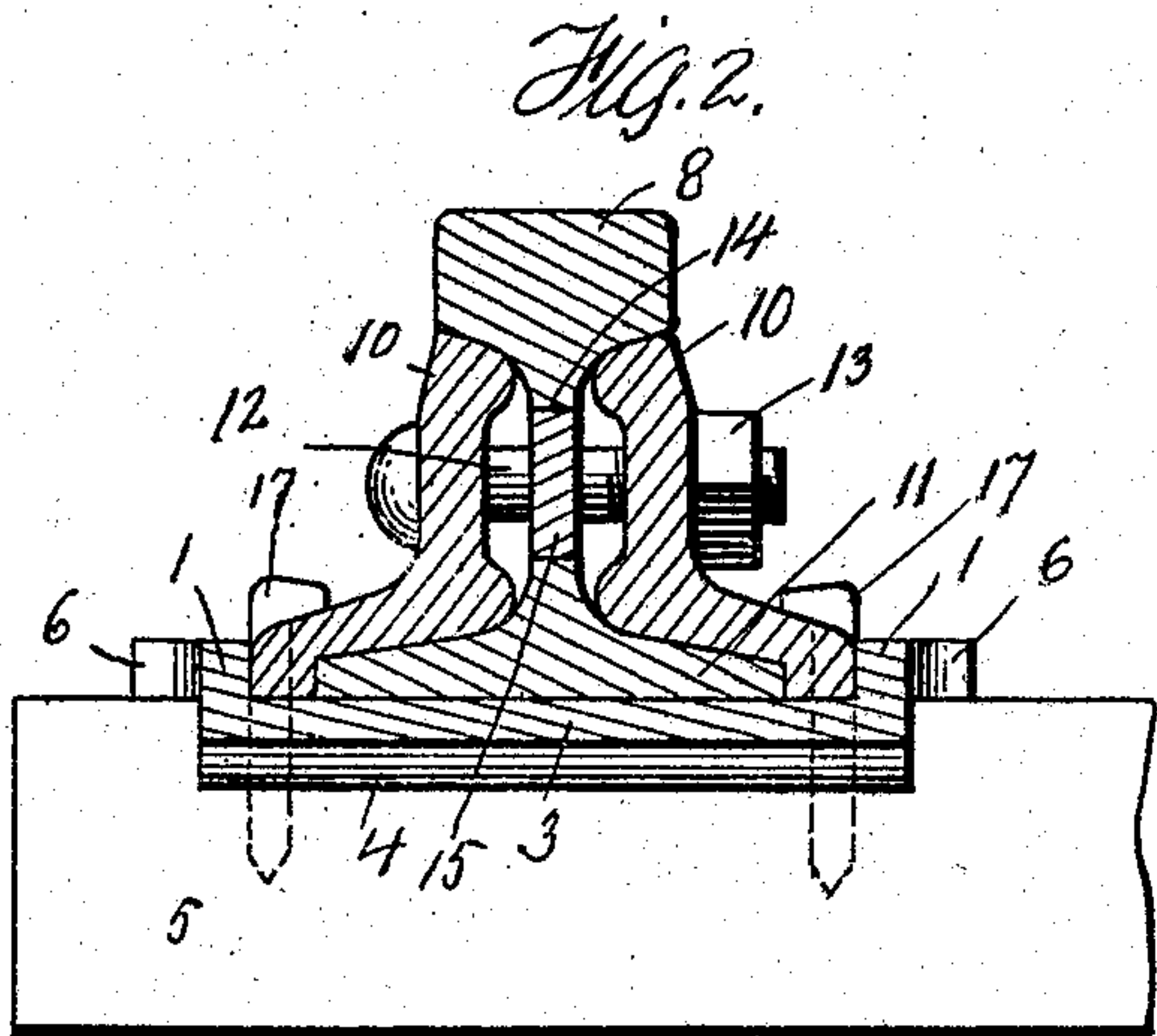
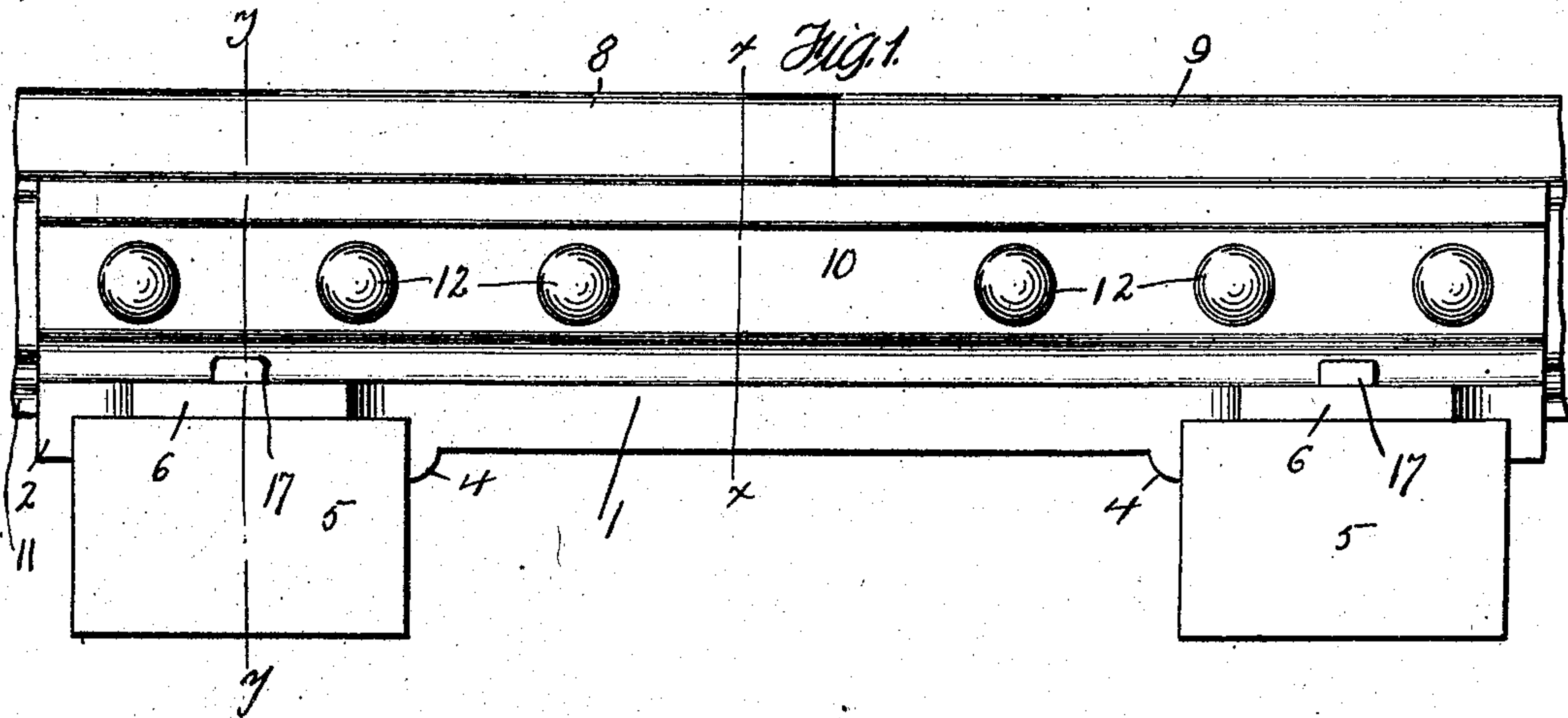


A. L. BARNES.  
RAIL JOINT AND TIE PLATE.  
APPLICATION FILED AUG. 7, 1909.

936,850.

Patented Oct. 12, 1909.



Witnesses

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# UNITED STATES PATENT OFFICE.

ALFRED L. BARNES, OF BEAVER FALLS, PENNSYLVANIA.

## RAIL-JOINT AND TIE-PLATE.

936,850.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed August 7, 1909. Serial No. 511,799.

*To all whom it may concern:*

Be it known that I, ALFRED L. BARNES, a citizen of the United States of America, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints and Tie-Plates, of which the following is a specification, reference being had therein to the accompanying drawing:

This invention relates to tie plates and rail fasteners, and the objects of the invention are; first, to provide a novel plate for spacing and connecting two ties, particularly those located at the juncture of two rails; second, to provide a tie plate of a simple and durable construction for supporting the confronting ends of two rails, whereby said rails cannot become laterally displaced relative to the supporting ties or sleepers; third, to furnish a tie plate with positive and reliable means for holding and bracing the rails thereon; and fourth, to provide a rail joint that can be easily and quickly installed by unskilled labor. These and such other objects as may hereinafter appear are attained by a device that will be presently described in detail and then claimed.

In the drawing:—Figure 1 is a side elevation of the improved tie plate and rail fastener, Fig. 2 is a cross sectional view of the same, taken on the line X—X of Fig. 1, Fig. 3 is a similar view taken on the line Y—Y of Fig. 1, Fig. 4 is a perspective view of a detached tie plate, and, Fig. 5 is a side elevation of the confronting ends of two rails constructed to interlock and prevent longitudinal displacement.

My improved tie plate comprises parallel longitudinal bars 1 having the ends thereof upon the lower sides connected by depending integral transverse tie members 2. The bars 1 intermediate the ends thereof have the lower sides connected by an integral plate 3 approximately the same in thickness as the members 2, said plate having the transverse edges thereof provided with depending tie members 4 adapted to confront and cooperate with the members 2 in holding two ties 5 a prescribed distance apart.

The bars 1 adjacent to the ends thereof have the outer sides provided with enlargements 6 adapted to strengthen and reinforce said bars upon opposite sides of the openings 7 formed by said bars, plate 3 and the members 2.

After the tie plate is fitted upon the ties 5, the rails 8 and 9 are placed upon the tie plate and splice bars 10 placed upon the sides of said rails to brace said rails by engaging the base flanges 11 and the under sides of the heads of said rails. The splice bars 10 rest upon the tie plate between the longitudinal edges of the base flanges 11 and the bars 1, and are connected to the rails by bolts 12 and nuts 13, said bolts extending through the splice bars and the webs of said rails, similar to an ordinary rail joint.

The end of the rail 8 has the web thereof provided with a transverse dovetail slot 14 to receive a projecting dovetail tongue 15 carried by the end of the rail 9. When the tongue 15 is fitted in the slot 14, the rail 8 cannot become longitudinally displaced relative to the rail 9.

In order that the tie plate and the splice bars 10 can be fastened to the ties 5, the longitudinal edges of the splice bars 10 are provided with spike notches 16 for spikes 17, said spikes extending downwardly upon the inner sides of the openings 7 into the ties 5, while the heads of said spikes extend over the longitudinal edges of the splice bars 10.

It is thought that the manner of assembling the various parts of the rail joint and the positioning of the tie plate will be fully understood without further description, and while in the drawing there is illustrated a preferred embodiment of the invention, it is obvious that the structural elements thereof can be varied or changed without departing from the spirit of the invention.

Having now described my invention, what I claim as new, is:—

1. In a rail joint, the combination with ties and rails adapted to be held in position by said ties, of a tie plate adapted to rest upon and space said ties, said plate comprising parallel longitudinal bars, transverse tie members connecting the ends of said bars, a transverse plate connecting said bars intermediate the ends thereof and having the transverse edges thereof provided with depending tie members adapted to confront and cooperate with the first mentioned members, said plate and the first mentioned members adapted to support the base flanges of said rails, splice bars bracing the sides of said rails and having the lower edges thereof arranged between said longitudinal bars and the edges of the base flanges of said



rails, said splice bars having the longitudinal edges thereof provided with spike notches, spikes adapted to extend downwardly through said notches upon the inner sides 5 of said longitudinal bars and engage in said ties, and means for connecting said splice bars to said rails, substantially as described.

2. In a rail joint, the combination with ties and rails adapted to be held in position 10 by said ties, of a tie plate adapted to fit upon said ties and space the same, said plate comprising longitudinal bars, tie members connecting the ends of said bars, a plate connecting said bars intermediate the ends 15 thereof and adapted to cooperate with said members in spacing said ties, said plate and

said members being adapted to support said rails, splice bars connected to said rails and having the lower edges thereof resting upon said plate and said members at the inner 20 sides of said longitudinal bars, and means adapted to engage the edges of said splice bars and the inner edges of said longitudinal bars for holding the tie plate and rails upon said ties. 25

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

ALFRED L. BARNES.

Witnesses:

JAMES D. PERROTT,  
JOSEPH McFERRON.