

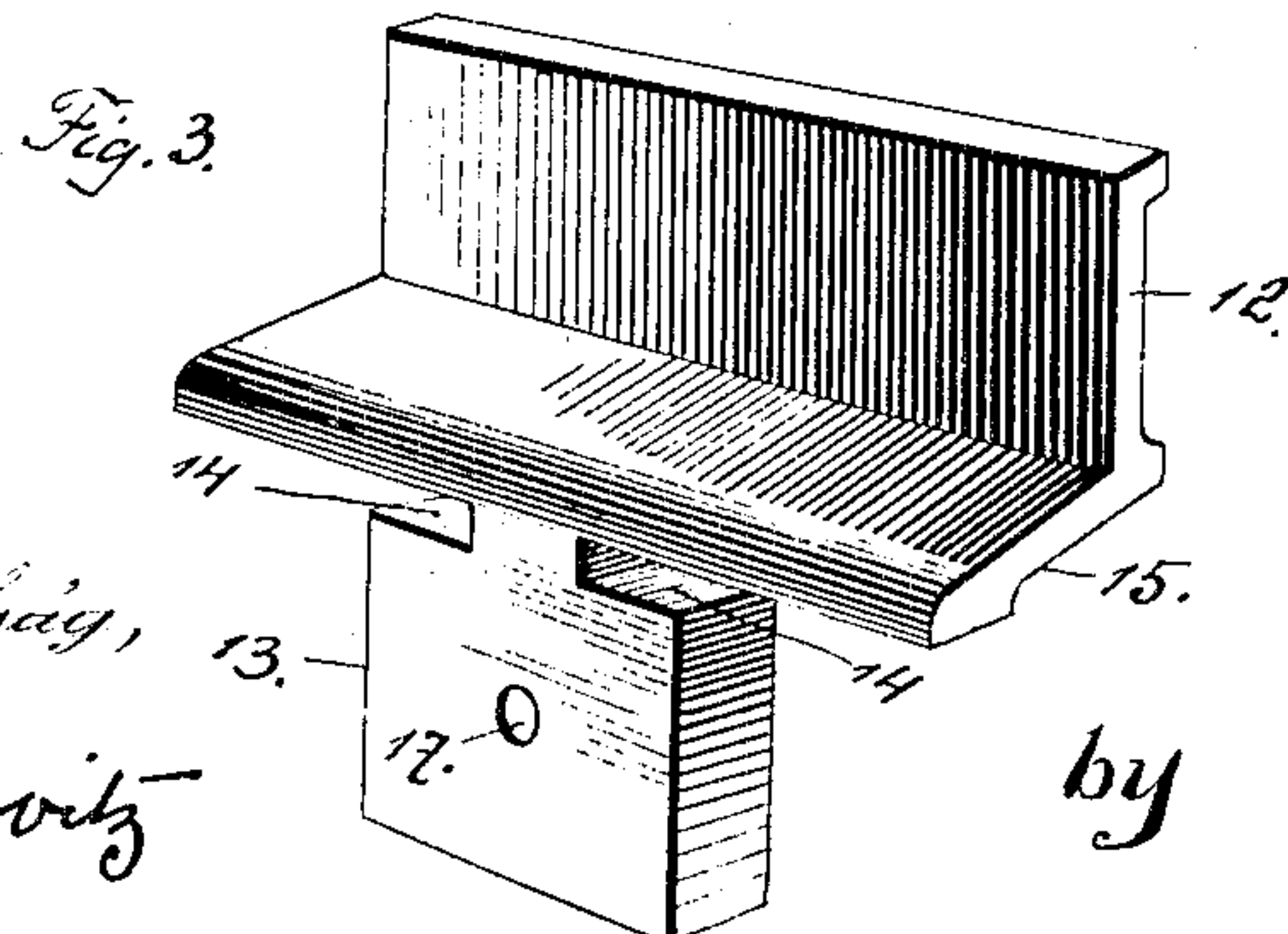
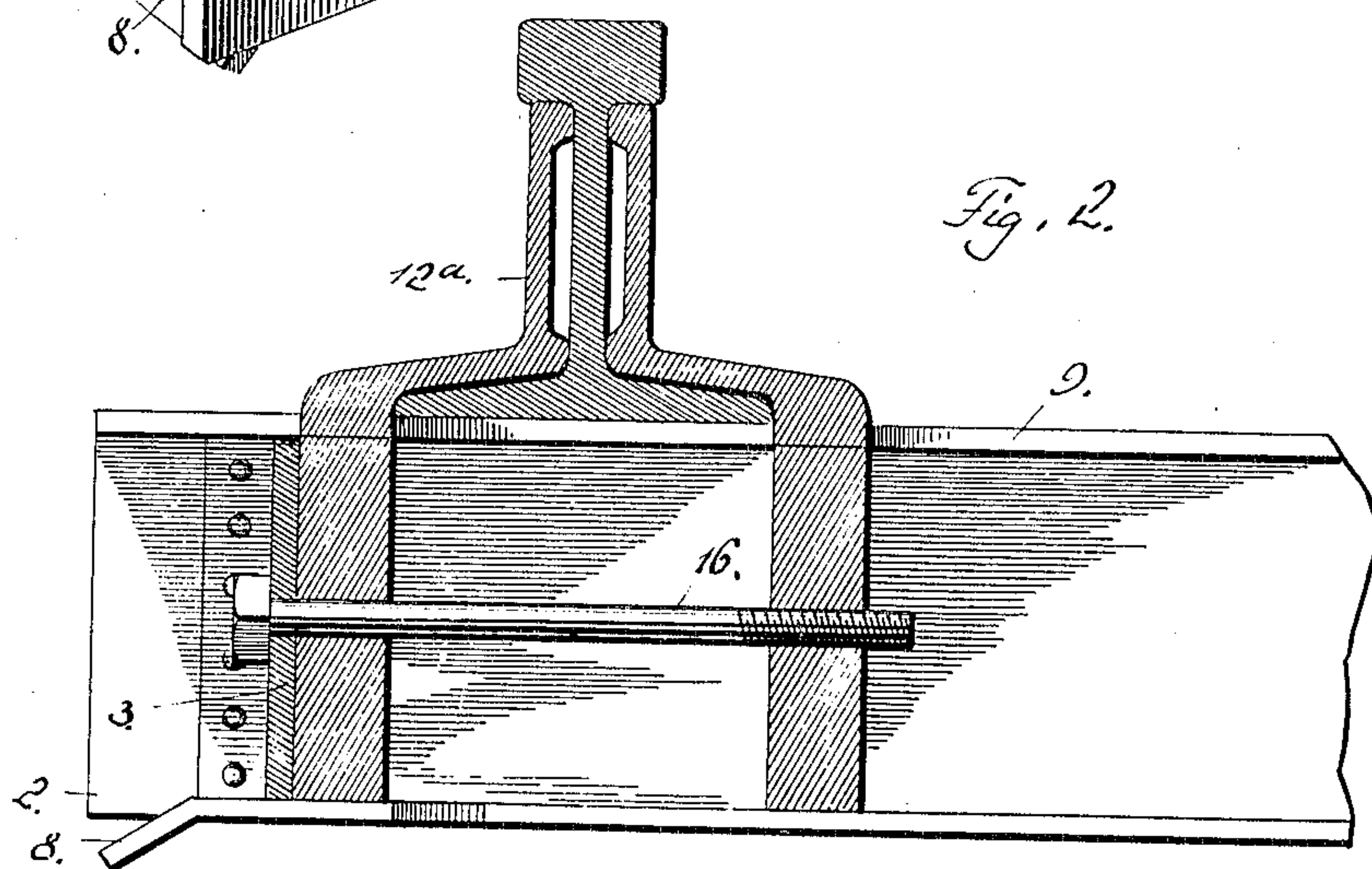
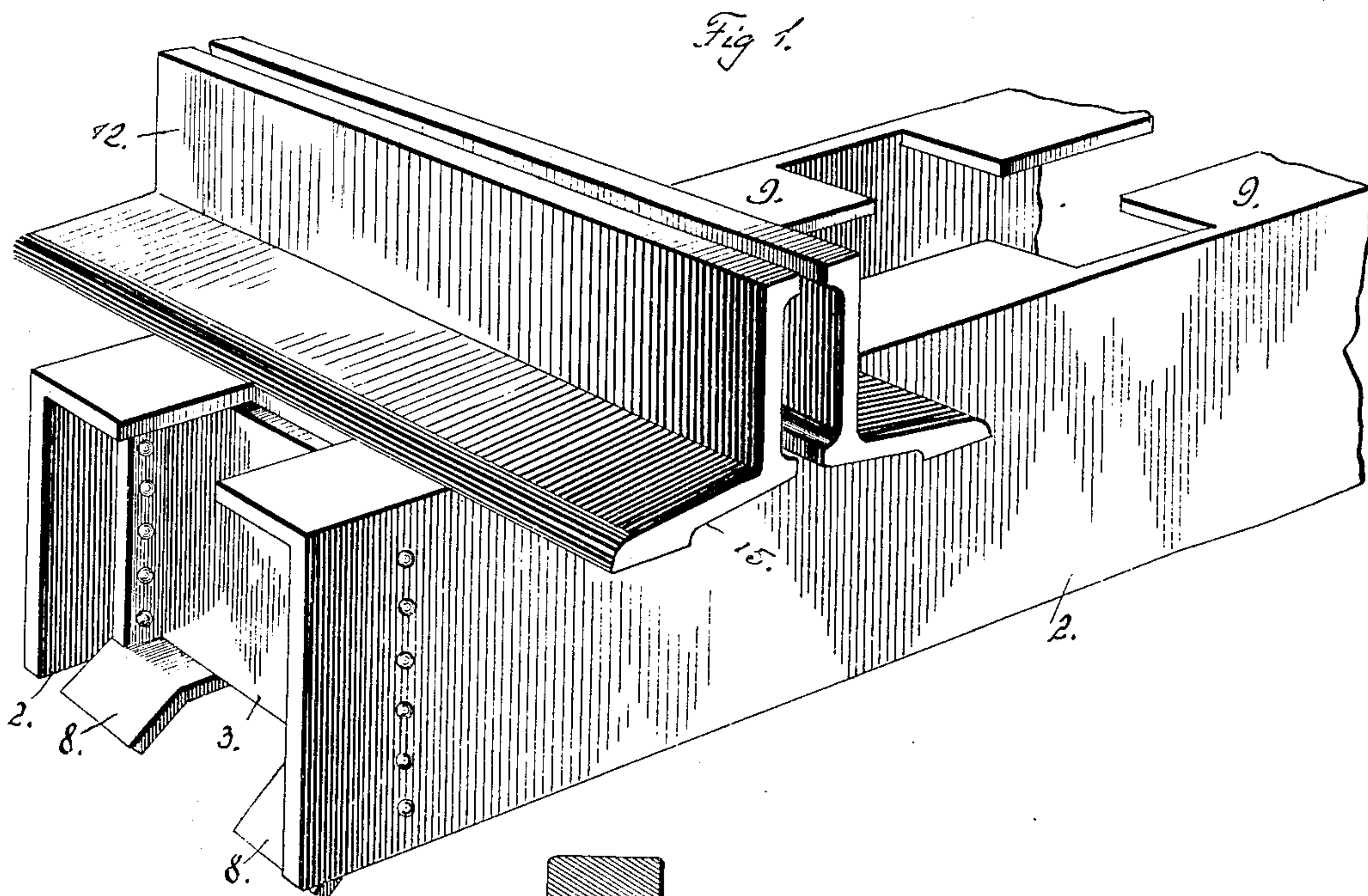
No. 844,827.

PATENTED FEB. 19, 1907.

J. NICHOLLS.  
RAILWAY TIE AND RAIL FASTENER.

APPLICATION FILED SEPT. 8, 1906.

2 SHEETS—SHEET 1.



Witnesses.

M. H. Ralsay,

Max H. Sholovitz

by

Inventor

John Nicholls

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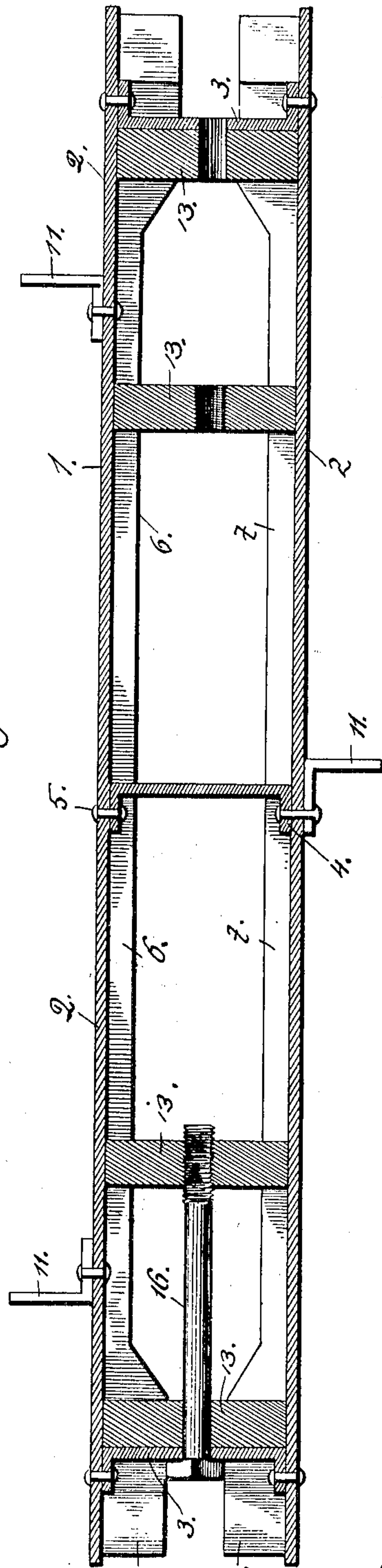
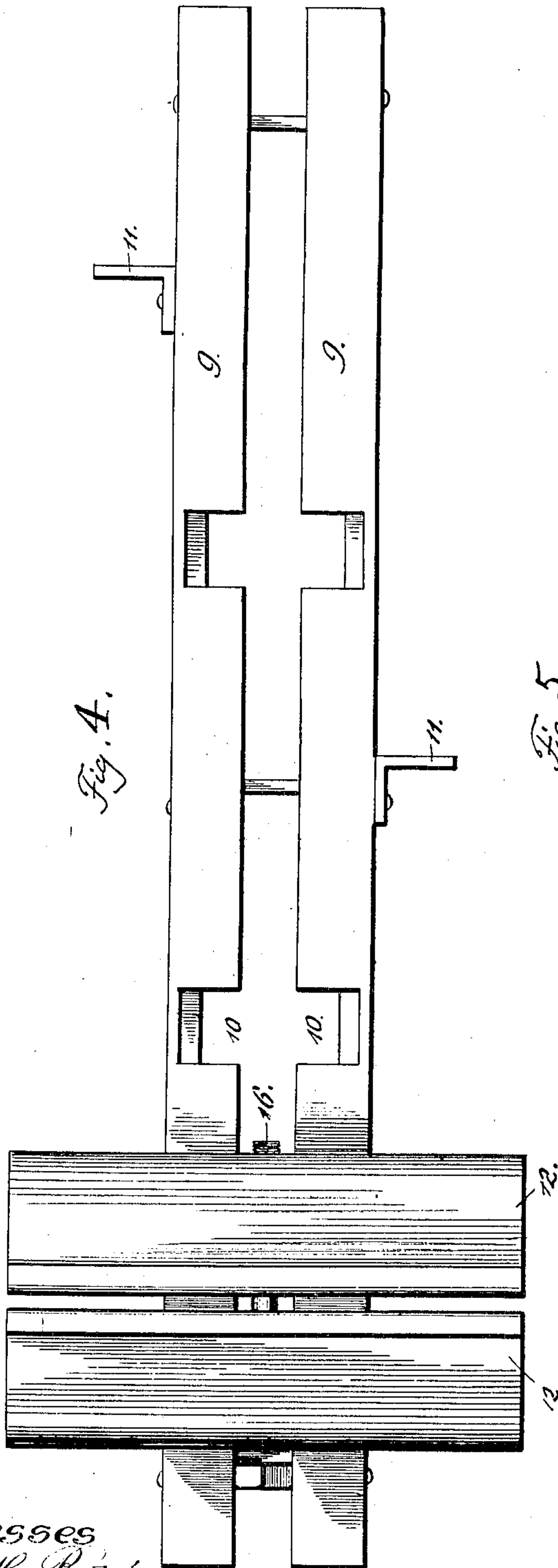
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Witnesses  
A. H. Ratsig

Max H. Sholovitz.

Inventor  
John Nicholls  
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Attorneys.



# UNITED STATES PATENT OFFICE.

JOHN NICHOLLS, OF FAYETTE CITY, PENNSYLVANIA.

## RAILWAY-TIE AND RAIL-FASTENER.

No. 844,827.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed September 8, 1906. Serial No. 333,802.

*To all whom it may concern:*

Be it known that I, JOHN NICHOLLS, a subject of the King of Great Britain, residing at Fayette City, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a combined railway-tie and rail-fastener; and its primary object is to provide a strong and durable metallic tie provided with means for firmly anchoring it in the ballast of a road-bed and so constructed as to adapt it to receive rail-fastening devices.

A further object of the invention is to combine with the improved metallic tie rail-securing devices of improved construction.

The invention will be more fully described hereinafter in connection with the accompanying drawings, which form part of this specification, and its novel features will be defined in the appended claims.

In the drawings, Figure 1 is a view in perspective of one end of a metallic railway-tie constructed in accordance with the invention with rail-supports applied thereto. Fig. 2 is a longitudinal section of the tie with a rail and my improved rail-fasteners in position thereon, said rail and fasteners being shown in transverse vertical section. Fig. 3 is a view in perspective of one of the rail-fasteners detached. Fig. 4 is a top plan view of the tie with a pair of rail-clamps secured thereto, and Fig. 5 is a horizontal section of the same.

The tie comprises two oppositely-disposed angle-plates, designated by the reference-numerals 1 and 2, respectively. These plates or sections are firmly secured together by transverse braces 3, having their ends 4 bent at right angles and secured to the plates by bolts 5. The horizontal flanges 6 and 7, projecting from the lower edges of the plates 1 and 2, are separated from the plates at the ends of the tie and bent outwardly to provide projections 8, and the upper horizontal flanges 9 of the tie-plates are oppositely recessed to provide slots 10, through which the rail-fastening devices are inserted, as will be further explained hereinafter.

To the outer sides of the tie plates or sections, at suitable intervals apart, are securely bolted angle-plates 11, disposed vertically and serving to embed or anchor the tie in the road-bed or ballast.

Each of the rail-fastening devices consists of a fish-bar 12 and a depending integral block 13, the latter being recessed on opposite sides below the base portion 15 of the fish-bar to adapt said block to fit the spaces between the inner edges of the upper horizontal flanges 9 of the tie, while the body of the block fits between the tie-plates, as shown.

To secure the rail upon the tie, the block 13 of the outer rail-fastening device is inserted through the adjacent slotted opening 10 in the top of the tie, and said block and the fish-bar of which it forms a part are moved outward to the position shown in the drawings. The rail is then placed in position against the inner side of the fish-bar 12, after which the other fish-bar and its block 13 are applied in the same manner by inserting the block 13 through the slot 10 and moving the fish-bar and block into the position illustrated in Fig. 2, after which a securing-bolt 16 is inserted through openings 17, formed in the blocks 13. The fish-bars which secure the opposite rail are inserted through the opposite opening 10 in the manner already described, and the bolts 16, which secure the blocks of the fish-bars firmly in position, extend through the end bracing-plates 3 of the ties.

It will be noted that the tie constructed as thus described is open throughout its length and is therefore adapted to be firmly embedded in the road-bed or ballast, and the projecting angle-plates 11, together with the end projections 8, firmly anchor the tie in position.

By the employment of my improved rail-securing devices, comprising the oppositely-disposed fish-bars provided with depending integral blocks, the rails are securely held upon the ties without the use of the usual bolts and nuts extending through the web of the rails. As best illustrated in Fig. 2, the oppositely-disposed fish-bars firmly embrace and clamp the base and web of the rail and rest below the tread thereof, providing a substantial and durable connection.

What I claim, and desire to secure by Letters Patent, is—

1. A metallic railway-tie comprising oppositely-disposed angle-plates formed on their upper sides with registering recesses, in combination with transverse vertically-disposed braces bolted to the plates.

2. A metallic railway-tie comprising op-



positely-disposed plates formed on their upper sides with registering recesses, in combination with transverse vertically-disposed braces bolted to the plates, and vertically-disposed angle-plates projecting from opposite sides of the tie.

3. A metallic railway-tie comprising oppositely-disposed angle-plates recessed on their upper side to provide transverse slots, in combination with vertically-disposed transverse securing-braces bolted to the tie sections or plates, horizontally-disposed flanges extending inward from the lower edges of the tie-plates and having their ends separated from said plates and projecting downward, and angle-plates secured to the opposite sides of the tie-plates.

4. The combination with a hollow metallic railway-tie formed on its upper side with transversely-disposed slots, of rail-securing means comprising oppositely-disposed fish-

bars, and depending blocks fitting within the tie, and horizontally-disposed bolts connecting said blocks.

5. The combination with a hollow metallic tie, comprising oppositely-disposed angle-plates recessed on their upper sides to provide transverse slots, of transverse end plates for said tie plates or sections, rail-securing means comprising oppositely-disposed fish-bars having depending blocks recessed on opposite sides below the base portions of the fish-bars, and bolts extending through registering openings in said end plates and blocks.

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

JOHN NICHOLLS.

Witnesses:

THOMAS W. READ,  
LAURA READ.