

P. DONOVAN.

RAIL TIE.

APPLICATION FILED JAN. 27, 1908.

918,022.

Patented Apr. 13, 1909.

2 SHEETS—SHEET 1.

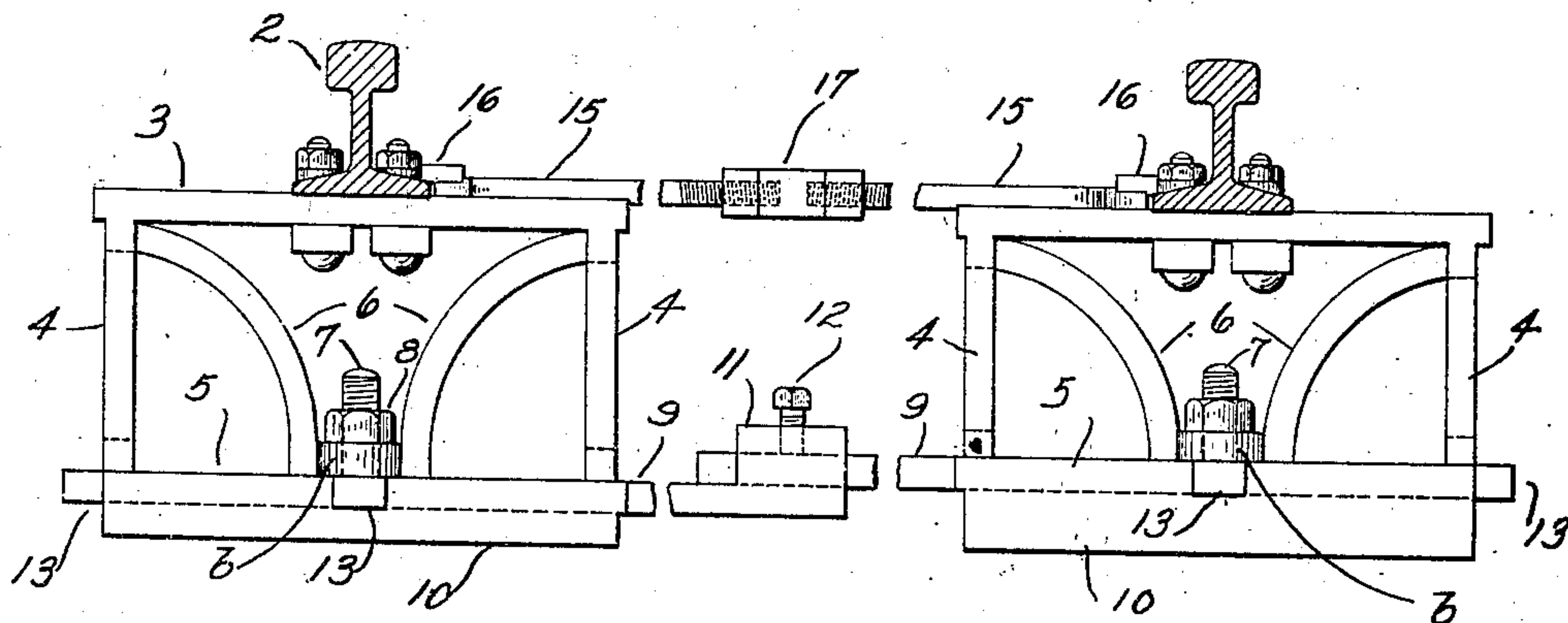


Fig. 1.

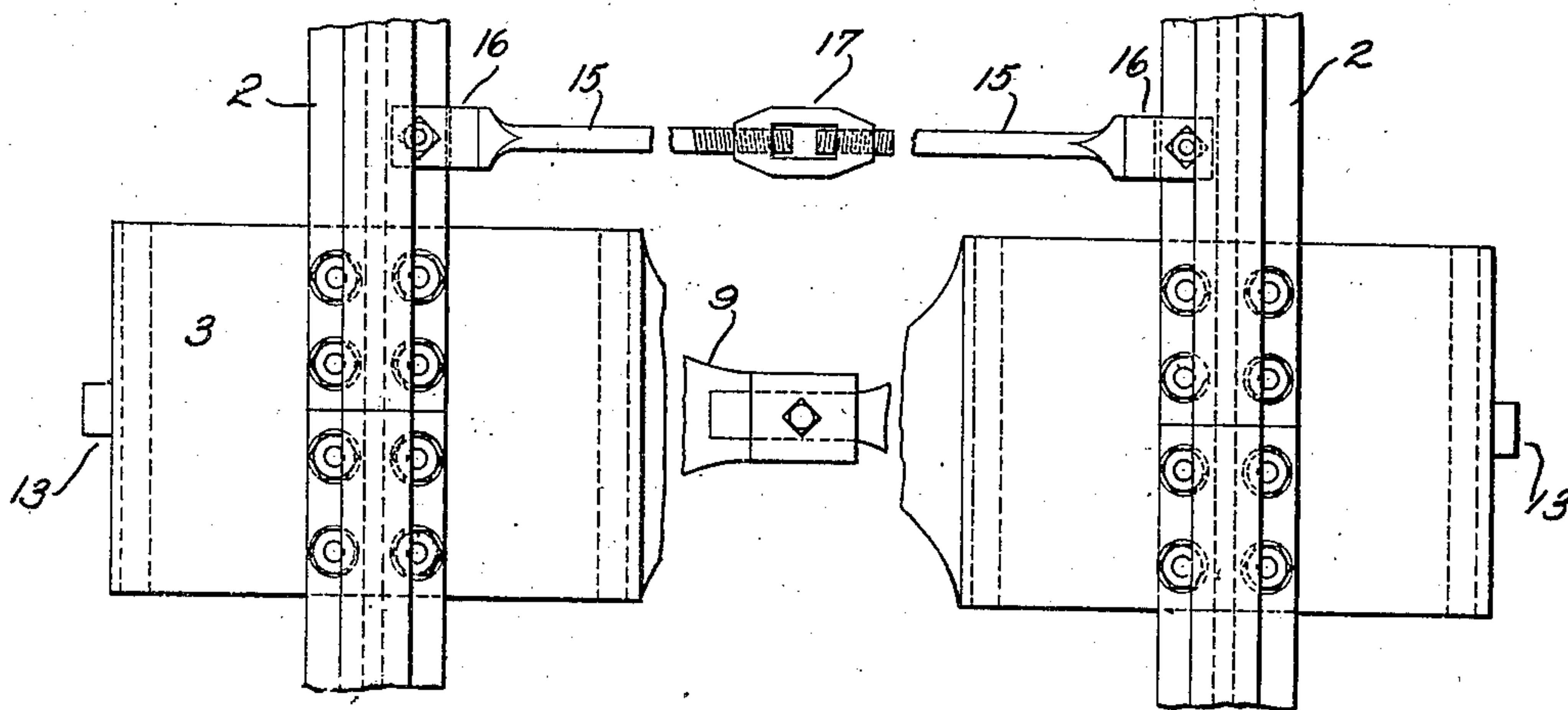


Fig. 2.

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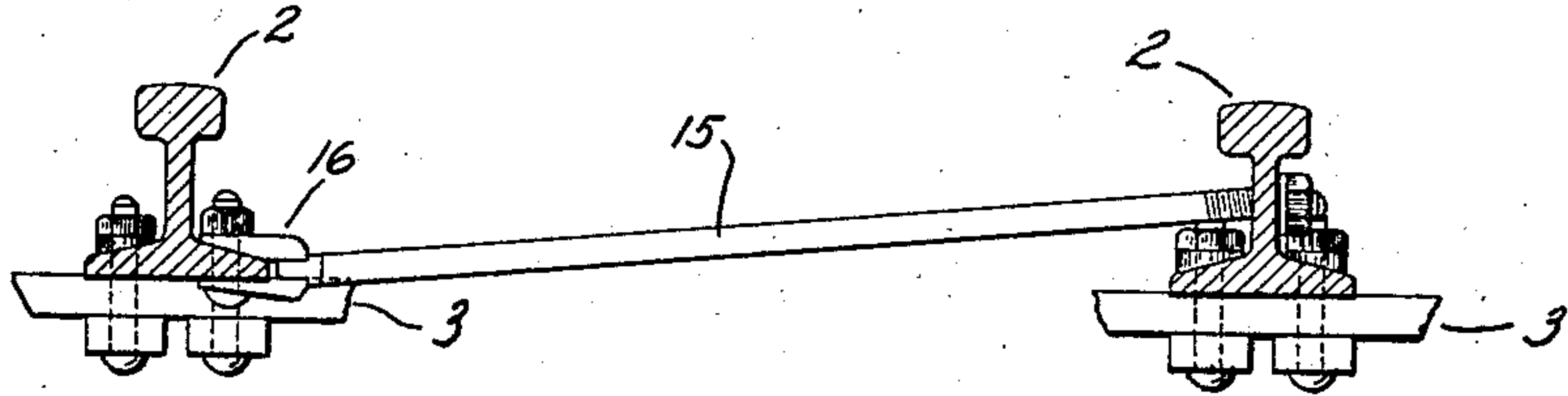


Fig. 3.

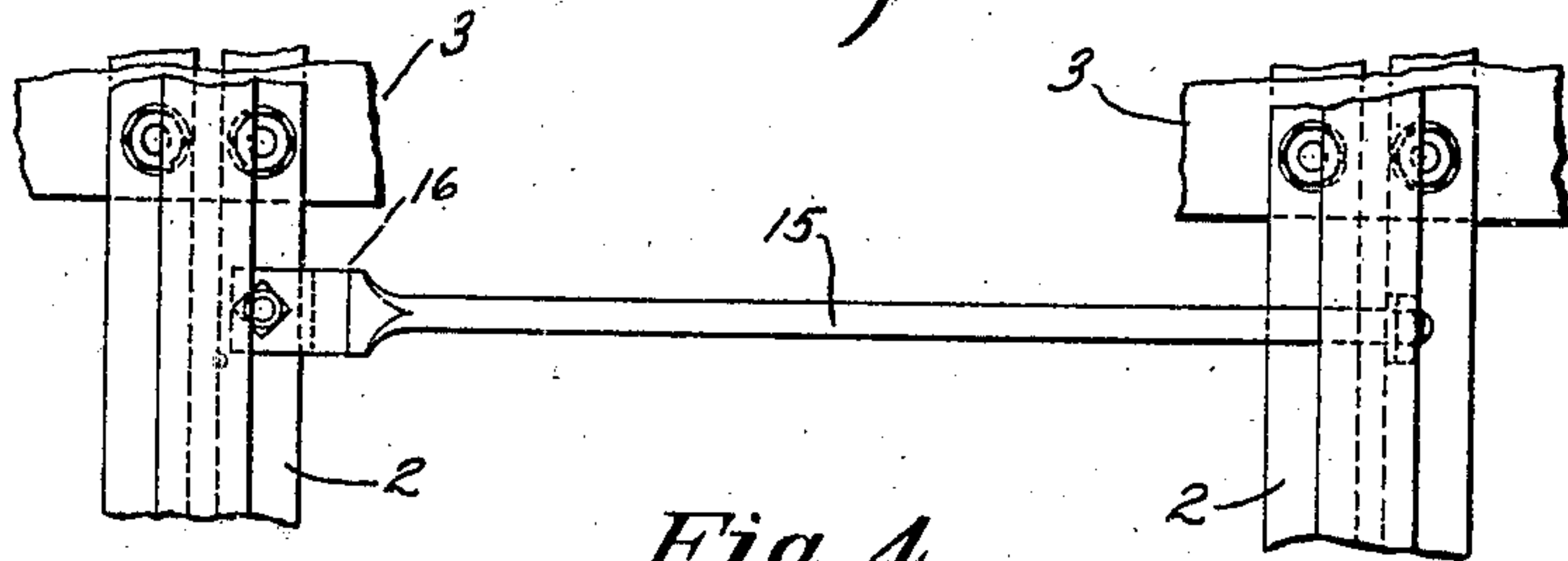


Fig. 4.

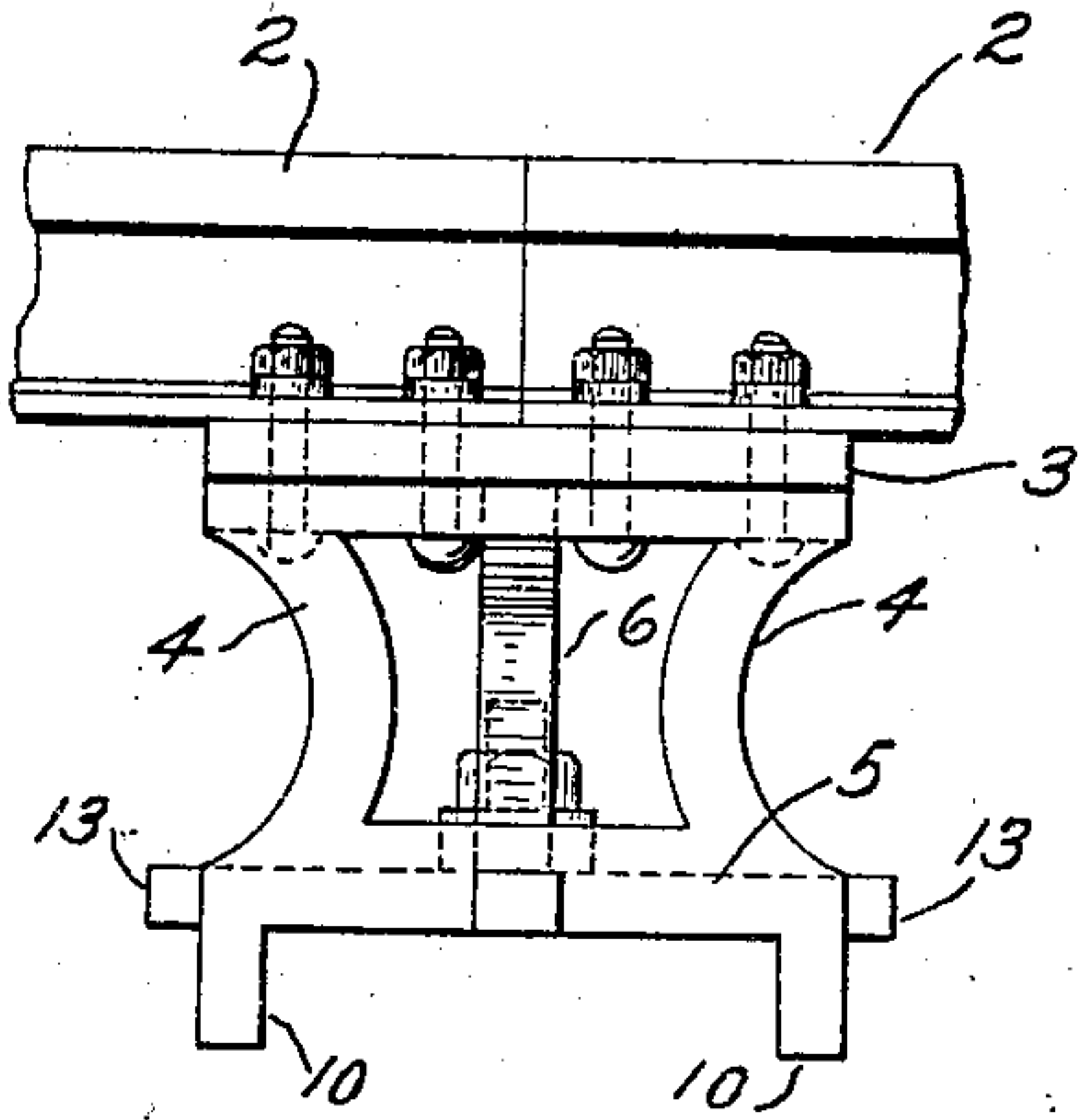


Fig. 5.

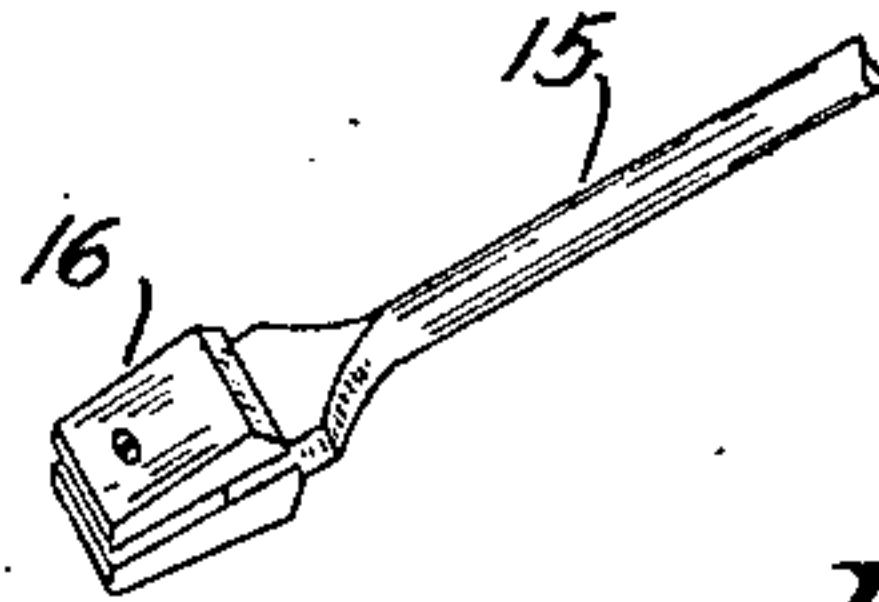


Fig. 6.

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UNITED STATES PATENT OFFICE.

PATRICK DONOVAN, OF HART, MICHIGAN.

RAIL-TIE.

No. 918,022.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed January 27, 1908. Serial No. 412,701.

To all whom it may concern:

Be it known that I, PATRICK DONOVAN, a citizen of the United States, residing at Hart, in the county of Oceana and State of Michigan, have invented new and useful Improvements in Rail-Ties, of which the following is a specification.

This invention relates to rail ties and more particularly to an adjustable, sectional metal tie that may combine any or all of the following advantageous features.

The invention includes means whereby spreading of the rails is prevented.

It provides a tie that is substantial, durable and finally economical.

An adjustable connection is provided joining the two rail chairs, which form parts of the tie.

The invention consists in the special features hereinafter fully described, pointed out and claimed in the following specification and illustrated in the accompanying drawings which form a part thereof.

In the drawings like reference characters designate corresponding parts.

Figure 1 is a side elevation of the tie. Fig. 2 is a plan view of the same. Fig. 3 is a modification of the subsidiary tie member shown in Fig. 2. Fig. 4 is a plan view of Fig. 3. Fig. 5 is an end view. Fig. 6 is a detail view of the jaw of the subsidiary member.

The reference numeral 2 designates the ordinary railway rail which in my invention is fastened to the rail chair seat 3 as shown in the several figures. Supports 4 running parallel to the rail extend from the rail chair seat to the base plate 5 and a yoke 6 comprising two diverging arms arranged transversely to the line of the rail is located between the rail chair seat and base plate and is provided with a connecting member *b*. An upwardly extending stud 7 threaded on its free extremity rises from approximately the center of the base plate and passes through the connecting portion *b* of the yoke 6 and carries a nut 8 on its threaded portion. In the preferred construction of the invention the rail chair seat 3 and yoke 6 are cast in one piece and the base plate 5 and stud 7 are cast in one piece and the purpose of the stud and nut is to bind the rail chair seat and base plate firmly together.

Each rail tie comprises a main portion and a subsidiary portion or member. The main portion of the tie is made in two sections

which are adjustable and a rail chair is provided on either section. The end of either base plate adjacent the opposite section of the tie is prolonged and made narrower as at 9. A rib 10 is provided on the under side of either base plate for the purpose of strengthening the same. The rib 10 under one section of a tie as shown in Fig. 1 is made of greater thickness than the rib under its sister-section in order that the prolongation of the base plate of the one section may rest upon the prolongation of the base plate of its sister-section; thus making the space between the rail chair seat and base plate of the one section proportionately less than the same space in its sister-section. A box loop 11 is carried on the under base plate prolongation. Apertures are provided in each base plate prolongation and also in the box loop for the admission of a bolt 12. This provides means for adjusting the distance between the rail chairs. Lugs 13 are provided on either side and on the disengaged extremity of either base plate for tamping the tie.

An auxiliary member shown in the drawings constitutes a portion of the tie. It is separate and distinct from the main tie. This auxiliary member may be composed of two sections as shown in Figs. 1 and 2 or in a single piece as shown in Figs. 3 and 4. When made in two sections it is composed of two bars 15 having their adjacent extremities threaded to engage a turn buckle 17 and their remote extremities provided with a jaw 16 designed to grasp the flange of the rail. An aperture is provided in the jaw 16 which admits a bolt to secure the same to the rail; this arrangement provides against spreading of the rails. When this member is composed of a single piece it involves a bar 15 to engage the flange of the rail in the manner described and its opposite extremity is threaded and pierces the web of the rail through an aperture therein and a nut on the threaded portion holds the bar in position.

Having fully described my invention, what I desire to claim and secure by Letters Patent is—

1. In a rail tie, a base plate with lugs 13, a rail chair seat engaging the rail, supports for said seat arranged parallel to the rail and resting on the base plate, an upright threaded stud with nut therefor carried by said base plate, and a yoke diverging up-

ward from the base plate to the supports 4 and engaging the aforesaid threaded stud to bind said rail chair seat to the base plate.

2. In a rail tie, a base plate having one tapering extremity, a rail chair seat engaging the rail, supports for said seat resting on the base plate, an upright threaded stud with nut therefor carried by said base plate, a yoke comprising two diverging connected
10 arms extending from the base plate to the supports 4 and engaging the aforesaid

threaded stud to bind said rail chair seat to the base plate and an auxiliary member designed to reside adjacent the tie sections and engage the rails substantially as described. 15

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

PATRICK DONOVAN.

Witnesses:

A. O. ALDRICH,
T. H. PITTENGER.