

J. H. HAYES.  
RAIL JOINT.

APPLICATION FILED OCT. 20, 1909.

950,668.

Patented Mar. 1, 1910.

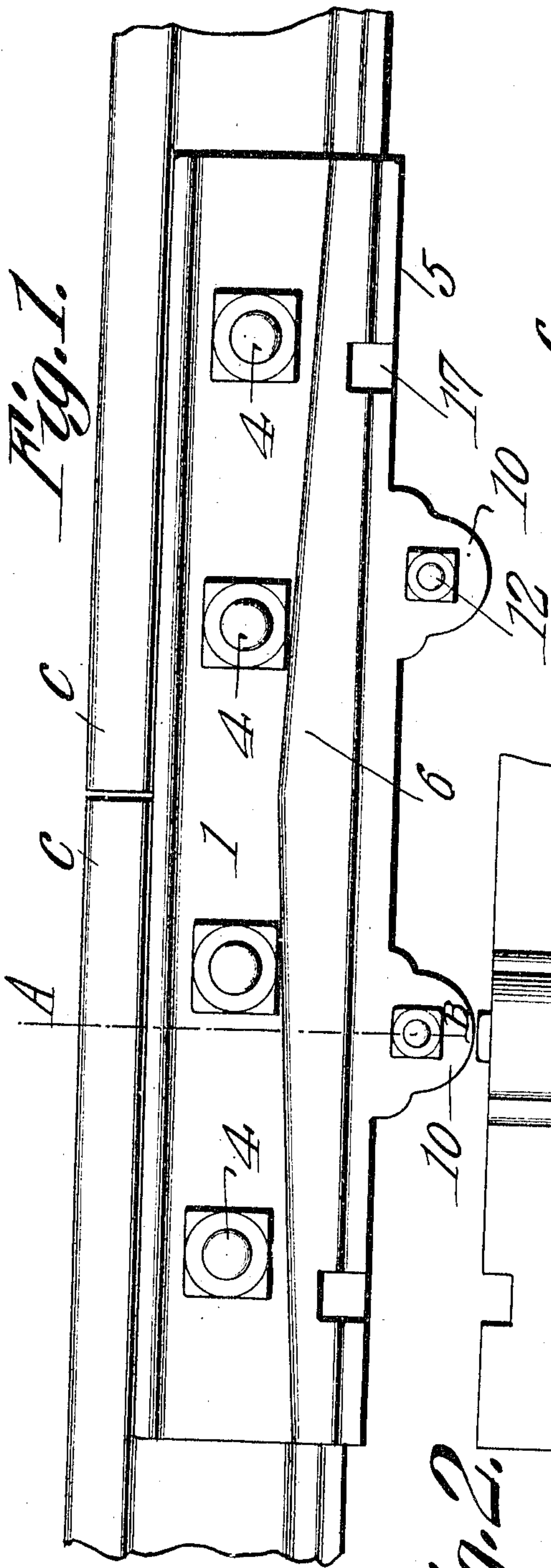


Fig. 1.

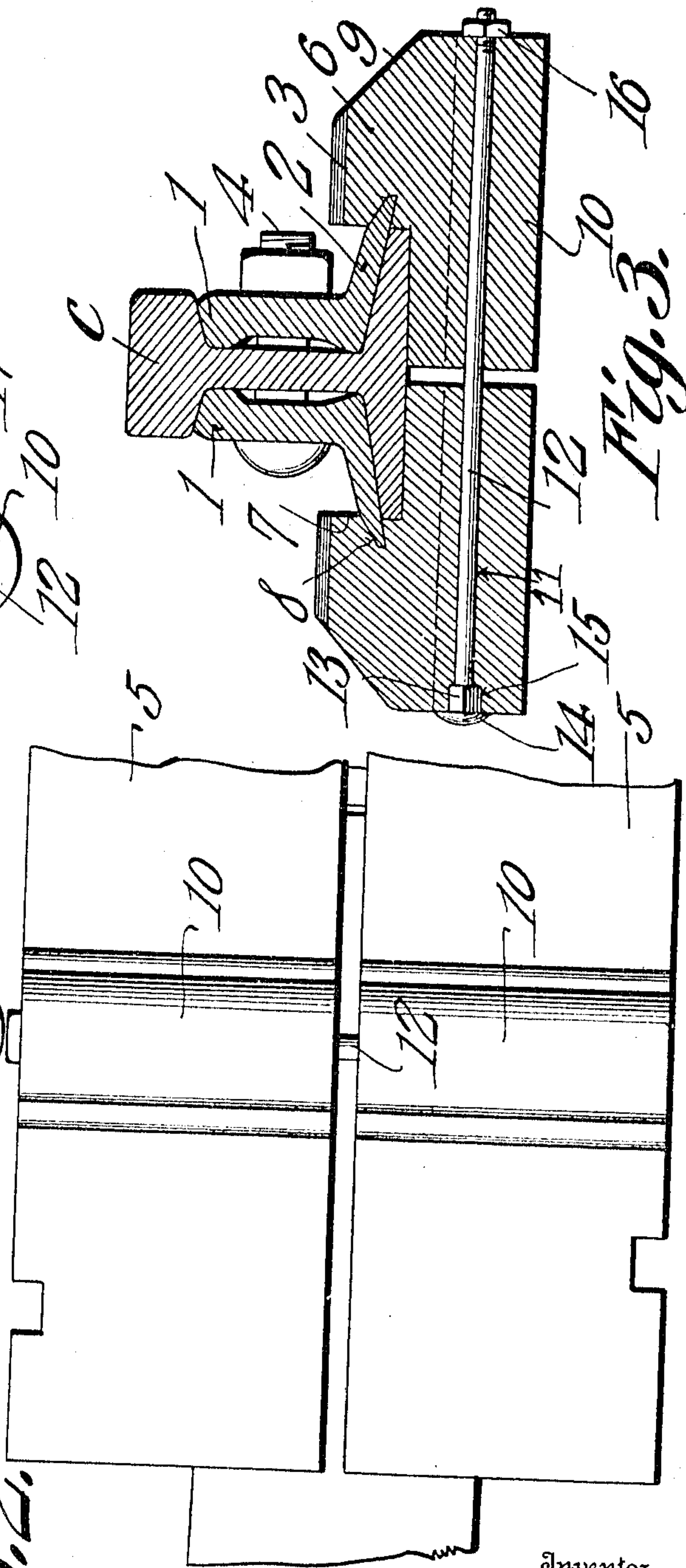


Fig. 2.

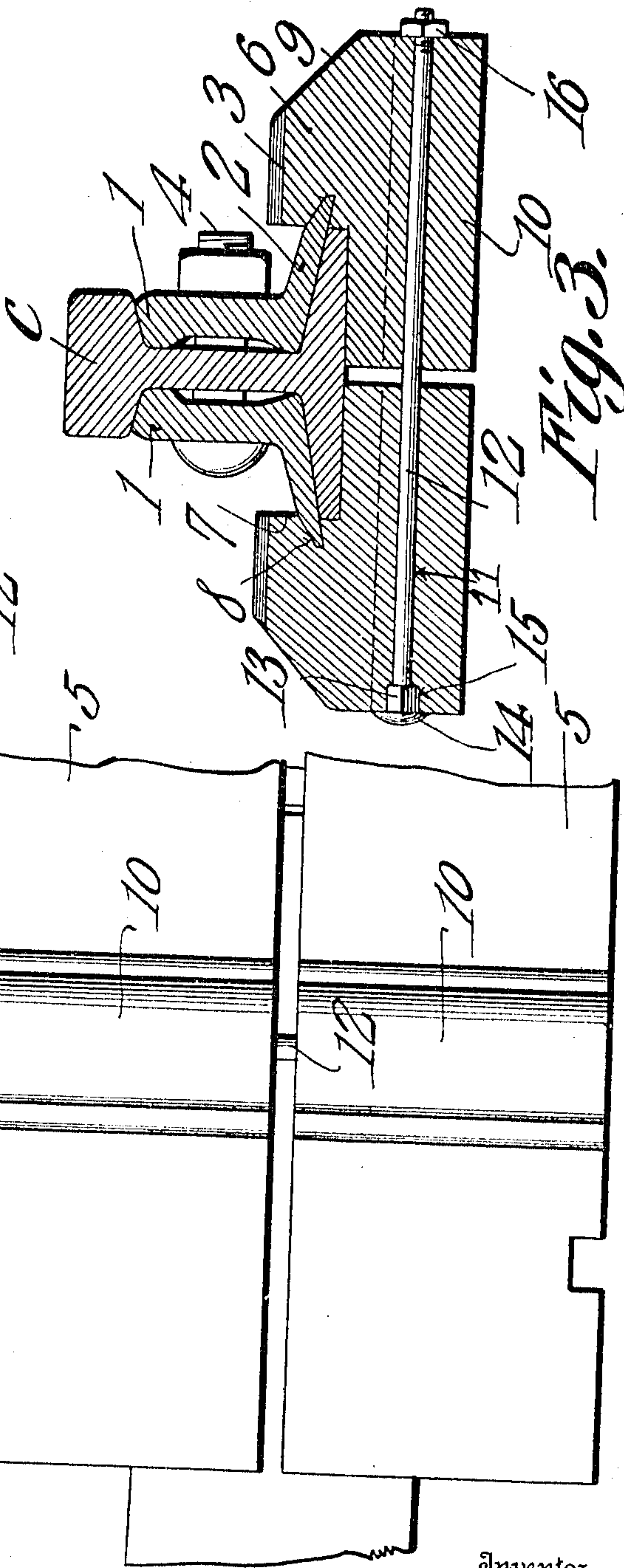


Fig. 3.

Witnesses

*E. J. [Signature]*  
*Robert D. Lawson*

Inventor

*John H. Hayes.*

By

*C. A. Snow & Co.*  
Attorneys



# UNITED STATES PATENT OFFICE.

JOHN H. HAYES, OF LESSLIE, SOUTH CAROLINA.

## RAIL-JOINT.

950,668.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed October 20, 1909. Serial No. 523,624.

*To all whom it may concern:*

Be it known that I, JOHN H. HAYES, a citizen of the United States, residing at Lesslie, in the county of York and State of South Carolina, have invented a new and useful Rail-Joint, of which the following is a specification.

This invention relates to rail joints and one of its objects is to provide a device of this character which will support the rail ends in an efficient manner and at the same time securely hold them in alinement and against any possibility of tilting or working loose.

Another object is to provide a device of this type which can be used upon rails of different sizes and which is provided with simple means whereby the parts can be readily adjusted so as to tightly engage the rail and fish plates.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings: Figure 1 is a side elevation of the rail joint embodying the present improvement. Fig. 2 is a bottom plan view of one end portion thereof. Fig. 3 is a section on line A—B Fig. 1.

Referring to the figures by characters of reference C designates the rails to be joined, these rails being arranged between opposed fish plates 1 designed to fit snugly between the base flanges and the heads of the rails and each provided with a flange 2 constituting the lower portion thereof and arranged to bear firmly upon the base flanges at one side of the rails. These flanges 2 of the fish plates extend beyond the sides of the base flanges of the rails and said projecting portions are preferably tapered as indicated at 3. It is of course to be understood that these fish plates are to be secured to the rails in the ordinary manner, as by means of bolts 4.

Each rail C is designed to rest upon a chair consisting of oppositely disposed plates 5 having longitudinally extending upstanding portions 6 spaced from the inner edges of the plates 5 and forming shoulders 7. Each of these shoulders extends the entire length of the plate 5 and is provided with a longitudinally extending groove 8

located at a distance from the plate 5 equal to the height of the edge portion of the base flange of the rail C. The groove is so proportioned as to receive the tapered projecting portion 3 of the base 2 of one of the fish plates 1. The outer faces of the upstanding portions 6 are preferably beveled as indicated at 9 and the upper faces of said portions preferably incline upwardly toward the centers thereof as shown particularly in Fig. 1.

Alining transversely extending lugs 10 are formed upon the bottom faces of the plates 5, each of these lugs being provided with a longitudinally extending bore 11 for the reception of a tie bolt 12. The outer ends of the bores 11 in the lugs on one of the plates 5, are preferably counterbored as indicated at 15 to receive enlargements 13 formed upon the tie bolts close to the heads 14 thereof, nuts 16 being utilized for holding the bolts in place and a suitable nut lock being used in connection with each of these nuts if desired.

It is to be understood that the chair formed by the plates 5 and the parts integral therewith, is of sufficient length to rest at its ends upon two ties, the middle portion of the chair being supported between the ties. This is the reason that the said upstanding portions 6 have been increased in thickness at their centers because, as the chair is relieved of supports at the center, it is desirable to increase the weight thereof at this point so as to prevent the ends of the rails from sagging.

In using the joint herein described the rails C are placed upon the plates 5 and between the shoulders 7 and the fish plates 1 are secured to opposite faces of the webs of the rails so as to support the base portion 2 on the base flanges of the rails and with their tapered projecting ends 3 extending beyond said base flanges. The bolts 12 are then inserted into the bores 11 and the nuts 16 are tightened thereon to draw the plates 5 toward each other. This will cause the projecting edges 3 of the fish plates to become seated within the grooves 8 and the shoulders 7 will be bound against the side edges of the base flanges of the rails. The fish plates 1 of course grip the rails sufficiently to hold them in alinement and as the bottom portions of the fish plates are firmly engaged by the grooved shoulders 7, it will be apparent that the rails will be held



securely against tilting movement and will be properly supported at their meeting ends.

Notches 17 may be formed within the sides of the plates 5 for the reception of spikes whereby the said plates can be properly secured to the ties on which they are mounted.

It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is:—

A rail joint including spaced rail supporting plates having longitudinal upstanding portions forming parallel shoulders, said portions extending throughout the length of the plate and having longitudinally extending grooves therein and extending throughout the length thereof, the said upstanding portions gradually increasing in thickness

toward their centers, said thickened portions being disposed above and beyond the grooves, alining transversely extending lugs upon the bottoms of the plates and having longitudinal bores, tie bolts movably mounted within said bores for binding the shoulders against the sides of the base flanges of the rails supported by the plates, and fish plates for attachment to opposite faces of the rails, each fish plate having a base portion the longitudinal edge of which is arranged to project into one of the grooves in the upstanding portion.

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

JOHN H. HAYES.

Witnesses:

J. T. SPENCER,  
T. F. LESSLIE.