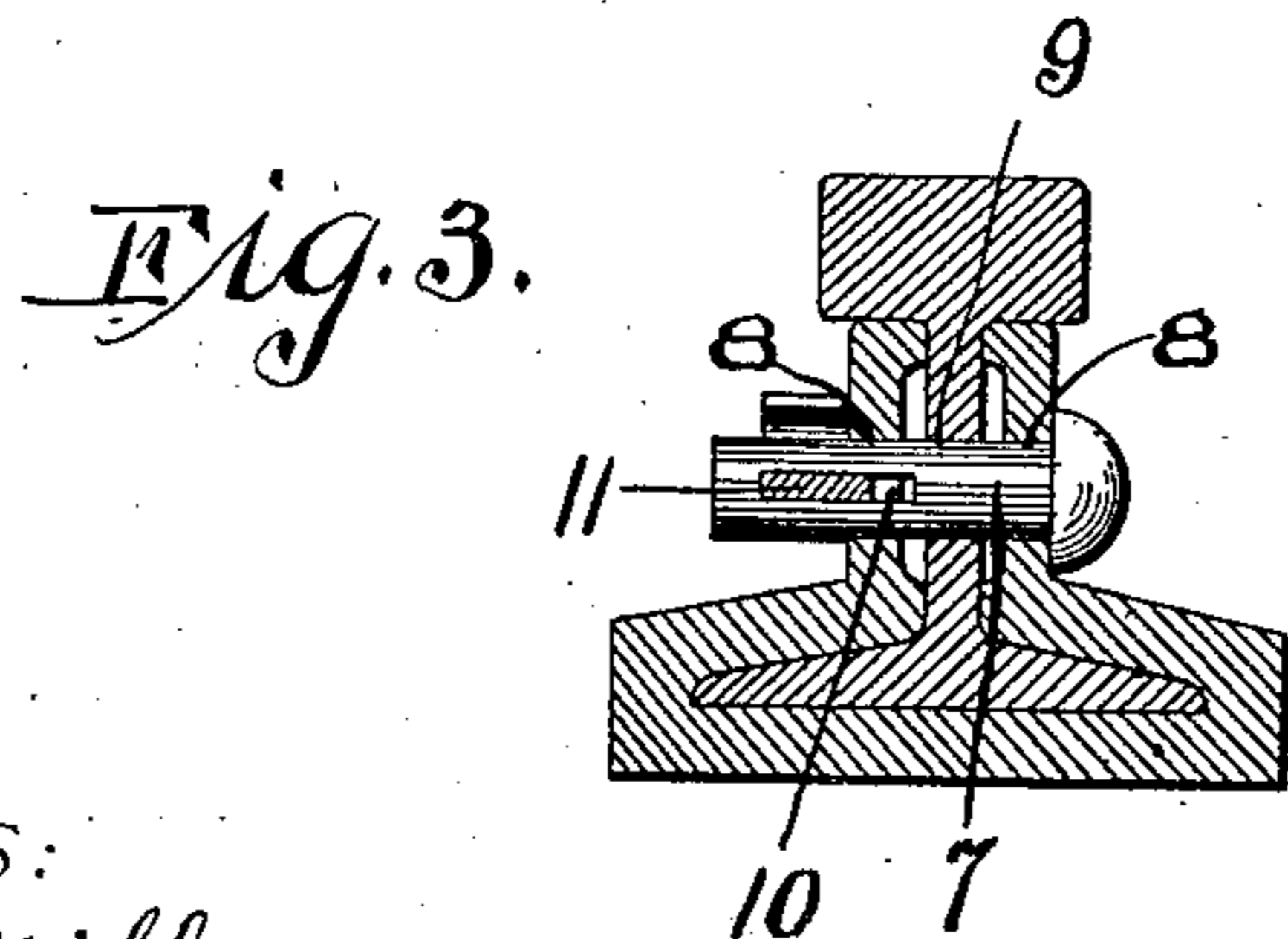
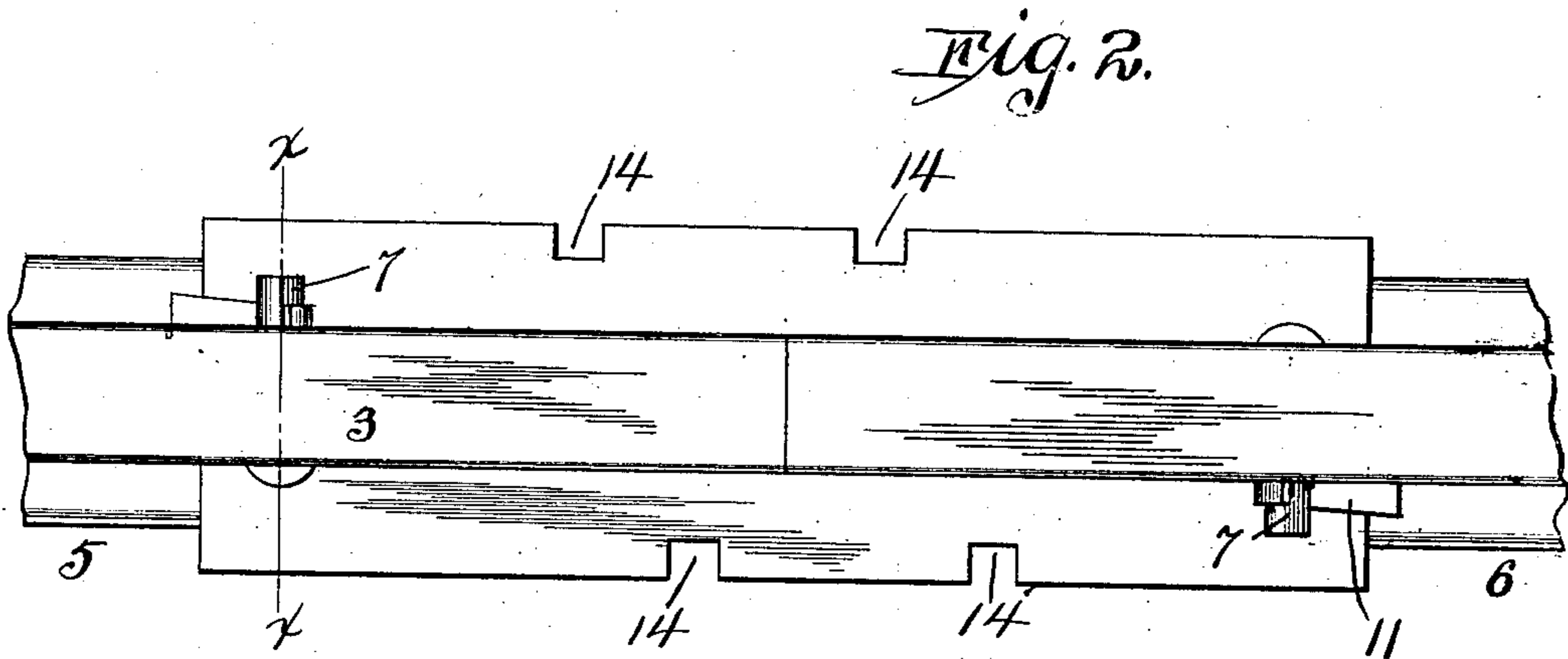
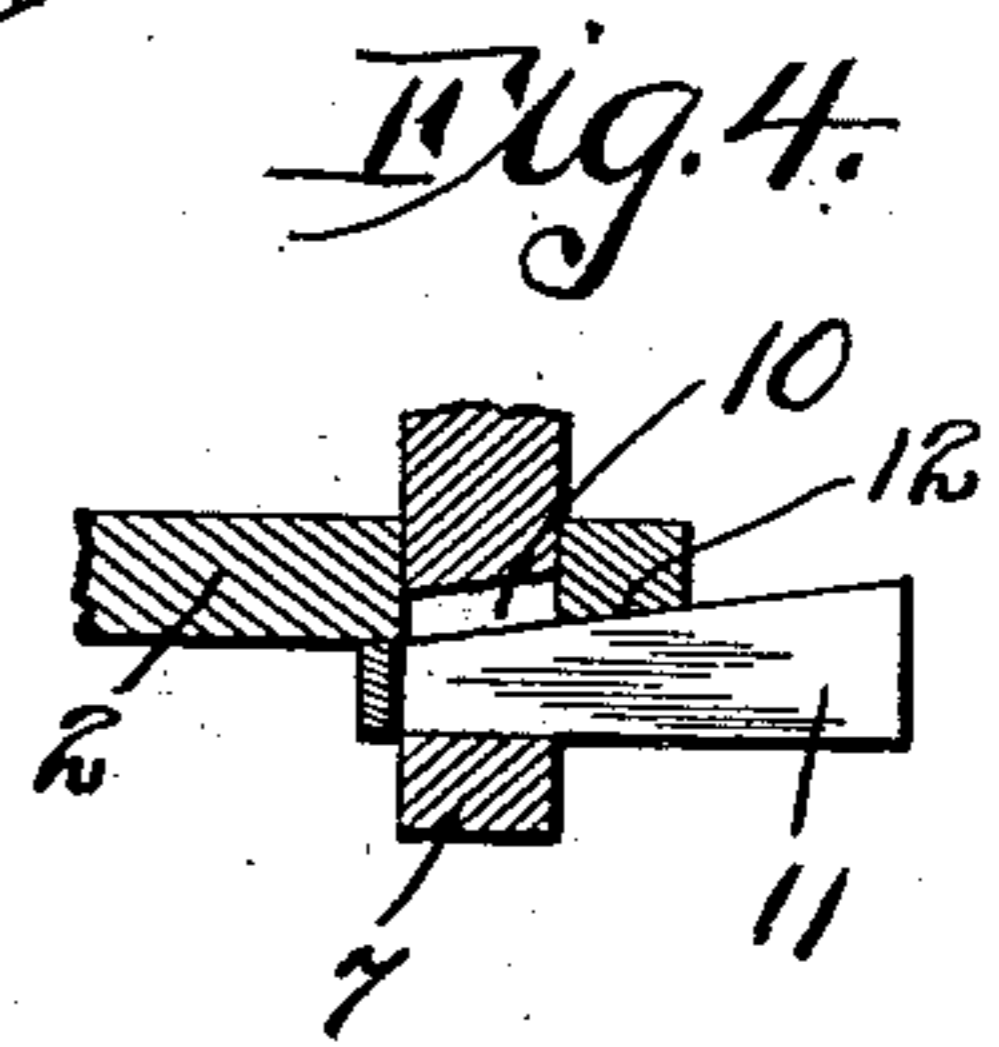
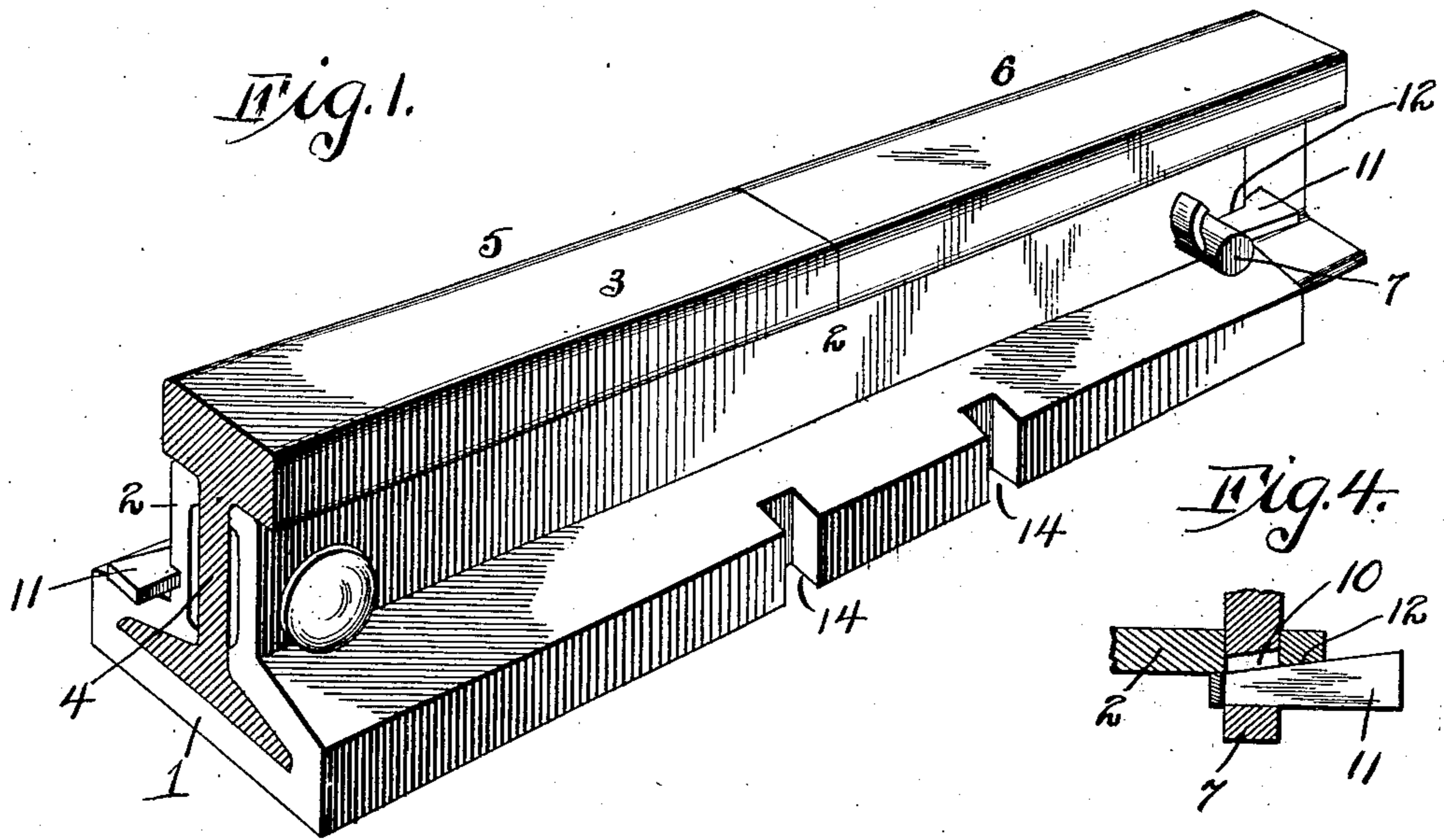


No. 864,000.

PATENTED AUG. 20, 1907.

M. KALINA.  
RAIL JOINT.

APPLICATION FILED JAN. 30, 1907.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

MICHAEL KALINA, OF BRADDOCK, PENNSYLVANIA.

## RAIL-JOINT.

No. 864,000.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed January 30, 1907. Serial No. 354,794.

*To all whom it may concern:*

Be it known that I, MICHAEL KALINA, a citizen of the United States of America, residing at Braddock, in the county of Allegheny and State of Pennsylvania, have  
5 invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to rail joints, and the invention has for its object to provide a novel rail chair for sup-  
10 porting the confronting ends of two sections of rails.

Another object of this invention is to dispense with the use of bolts and nuts in connection with fish plates, for holding the confronting ends of two sections of rails together.

15 With these and other objects in view, which will more readily appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts to be hereinafter more fully described and then specifically pointed out  
20 in the appended claims, and referring to the drawing forming part of this specification, like numerals of reference designate corresponding parts throughout the several views, in which:—

Figure 1 is a perspective view of my improved rail  
25 joint, Fig. 2 is a plan of the same, Fig. 3 is a cross sectional view taken on the line  $x-x$  of Fig. 2, and Fig. 4 is a horizontal sectional view of a portion of the rail joint illustrating one of the pins or keys thereof.

My invention consists in providing a rail chair having  
30 a base 1 and integral fish bars 2, said bars being adapted to brace the heads 3 and web portions 4 of rails 5 and 6 mounted in the chair. The rails 5 and 6 to be connected together are placed endwise within the chair and to secure the ends therein, I use headed pins 7, said  
35 pins passing through openings 8 formed in the fish bars 2 and openings 9 formed in the web portions 4 of the rails 5 and 6.

To retain the pins 7 in the openings 8 and 9, I provide the pins with elongated slots 10 to receive wedge-  
40 shaped keys 11. To prevent the pins 7 from rotating and to insure a more positive locking of the pins and keys 11, I provide the fish bars 2 with grooves 12 to re-

ceive the beveled edges of the wedge shaped keys 11. By the novel manner in which I secure the rails within the chair, longitudinal displacement of said rails is prac- 45 tically impossible, and it is obvious that one rail cannot become laterally or vertically displaced with relation to its adjoining rail.

The sides of the chair are provided with vertically disposed slots 14 for spikes, the slots upon one side of 50 the chair being staggered with relation to the slots upon the opposite side. While spikes may be used for securing a chair to a tie, other means may be employed which will firmly hold the chair upon the tie and prevent its creeping thereon. 55

The chair which constitutes a part of my invention is preferably constructed of strong and durable metal to withstand the vibratory strains and stresses to which it is subjected by rolling stock passing over the rails, mounted within the chair. 60

Such changes in the size, proportion and minor details of construction, as are permissible by the appended claims, may be resorted to without departing from the spirit and scope of the invention.

What I claim and desire to secure by Letters Patent, 65 is.

In a rail joint, the combination with rails, of a chair adapted to embrace the contiguous ends of said rails, comprising a base and integral fish bars, said fish bars having openings formed therein adjacent their ends, and provided 70 at their lower edges with grooves, headed pins adapted to pass through said openings and through fish-bar openings in the web portions of said rails, said pins having elongated slots formed therein having one wall of the slots at an angle to the other wall, and separate wedge keys 75 adapted to pass through said slot, said keys having their sides adjacent the fish plate formed at an angle coinciding with the angular wall of said slot and fitting in grooves formed in said fish bars, substantially as described. 80

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

MICHAEL KALINA.

Witnesses:

C. KLOSTERMANN,

JACOB HELMSTADTER, Jr.