

No. 819,457.

PATENTED MAY 1, 1906.

C. M. RHODES.

RAIL JOINT.

APPLICATION FILED FEB. 8, 1906.

Fig. 1.

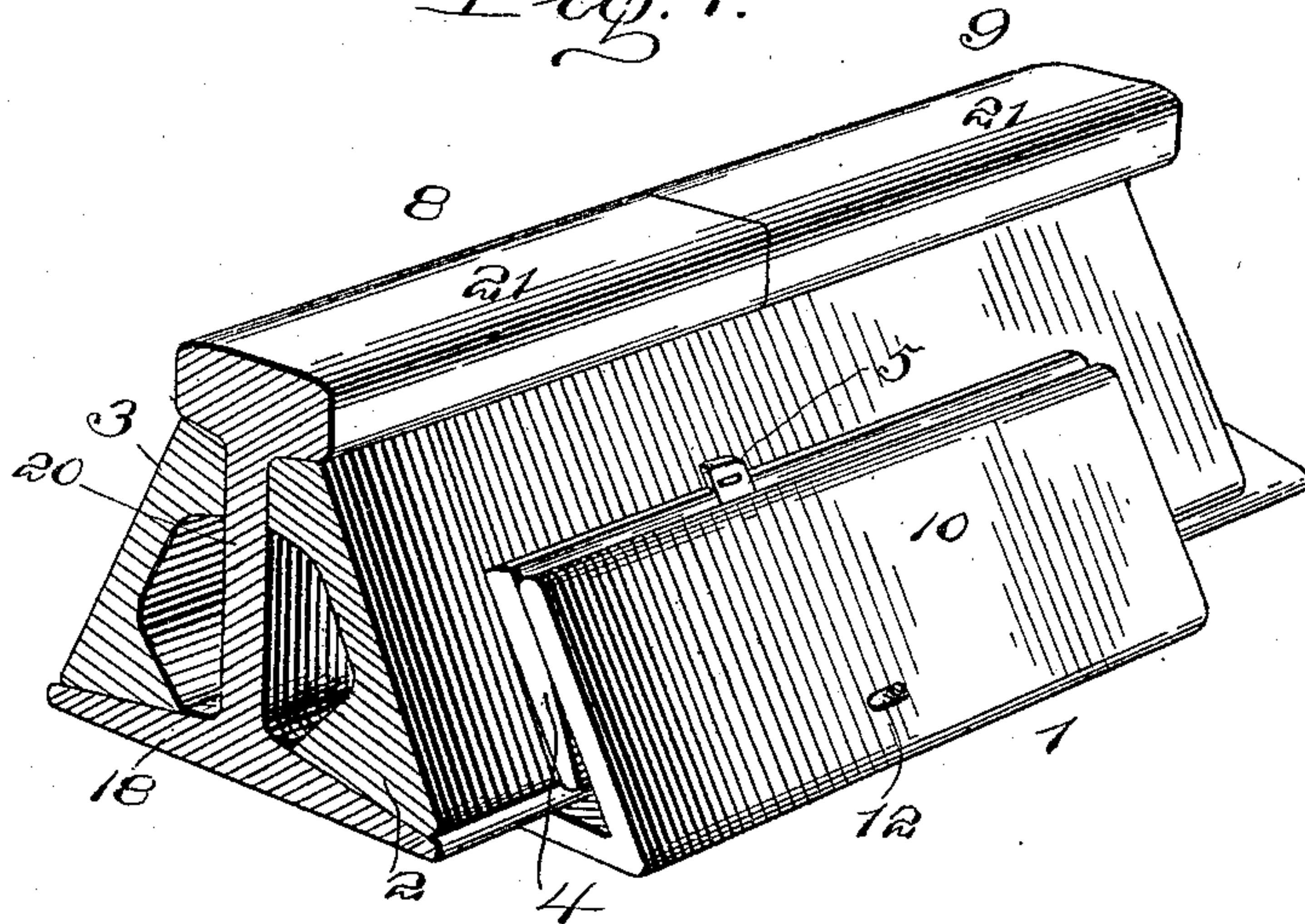


Fig. 2.

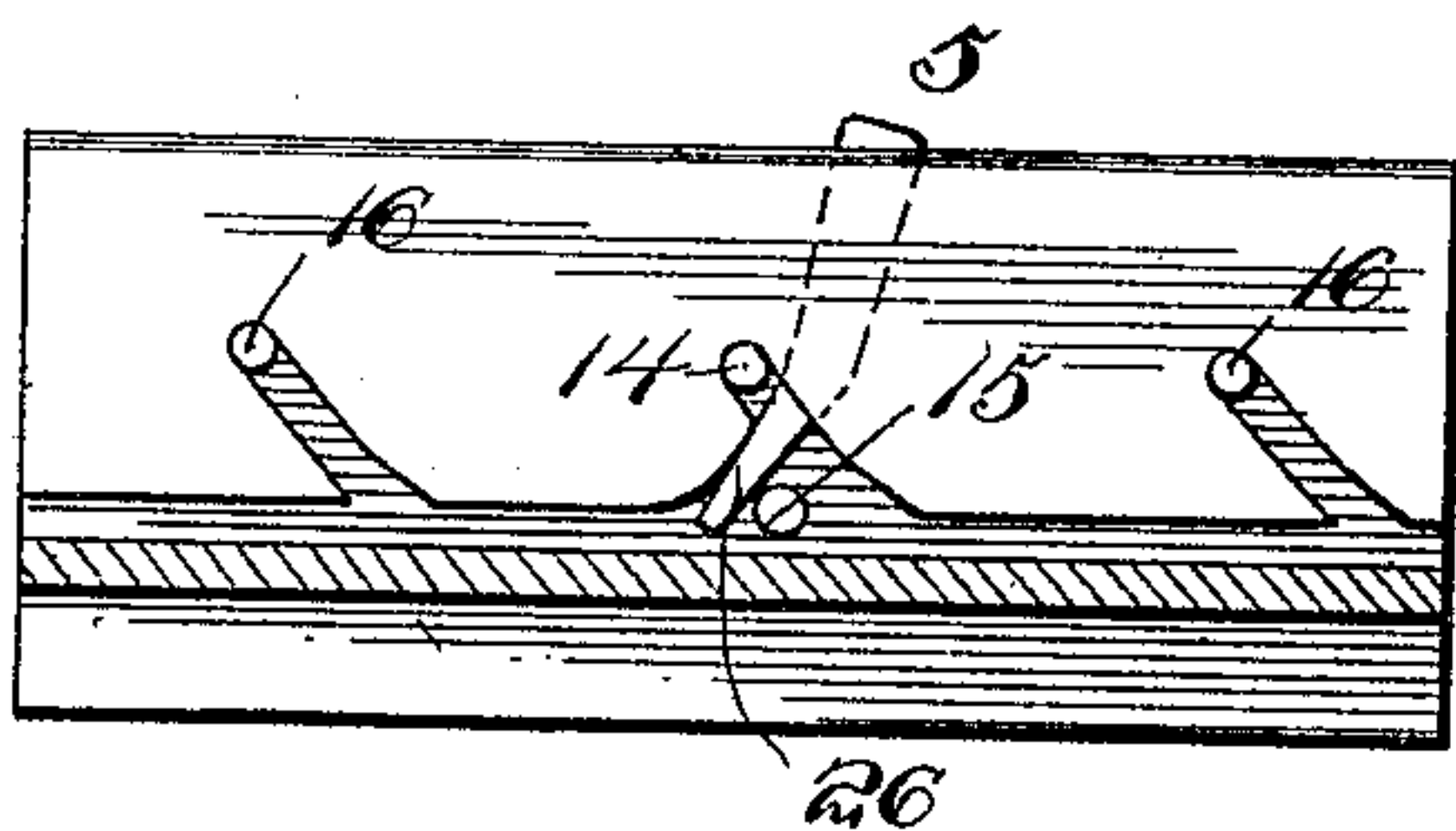


Fig. 3.

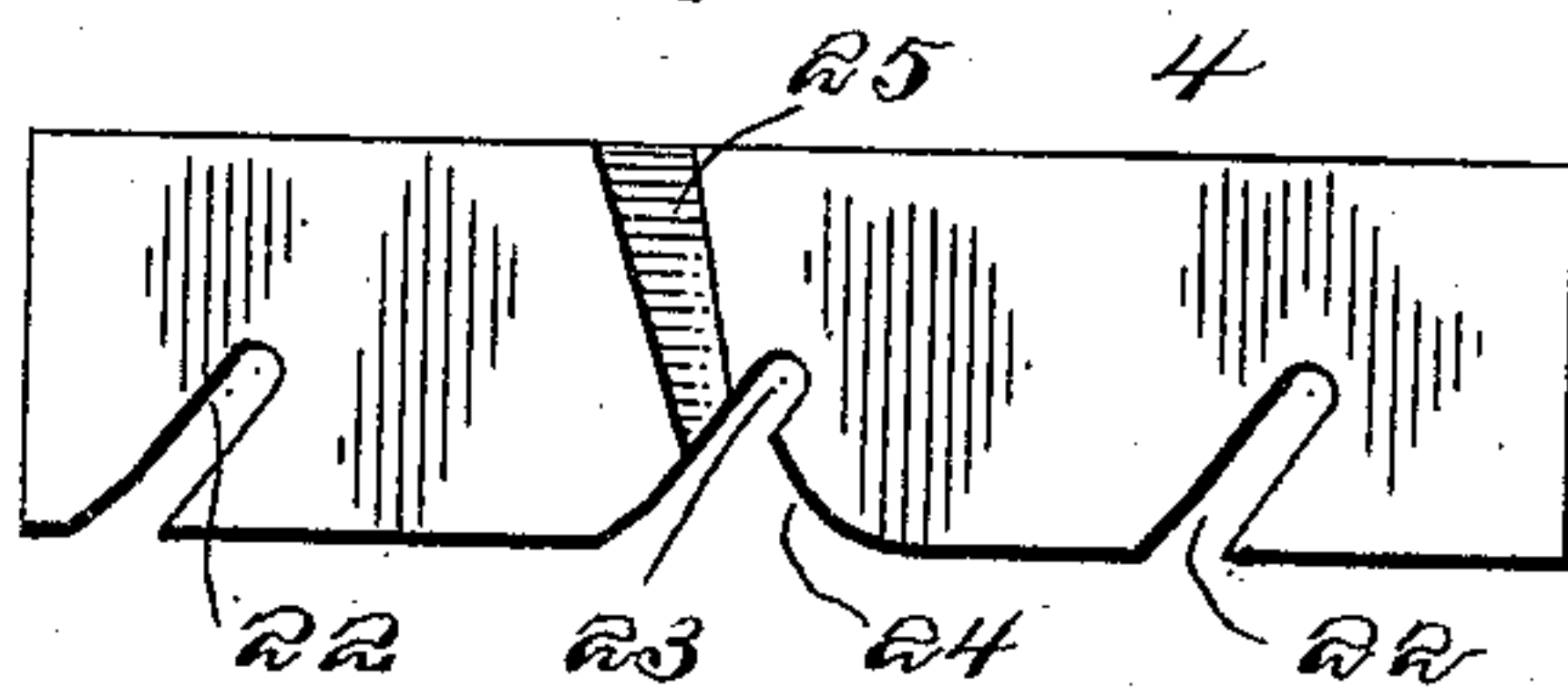


Fig. 4.

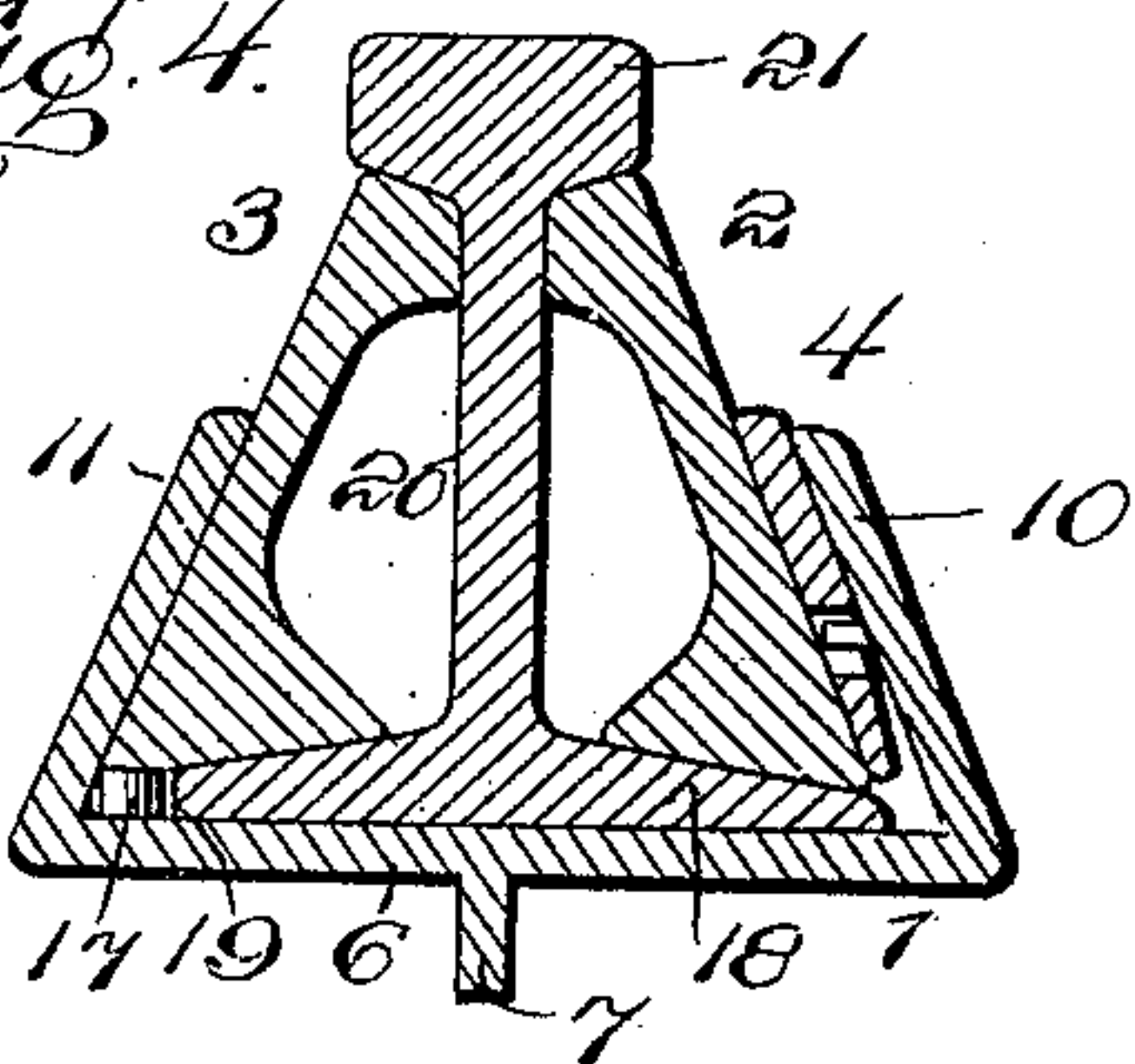
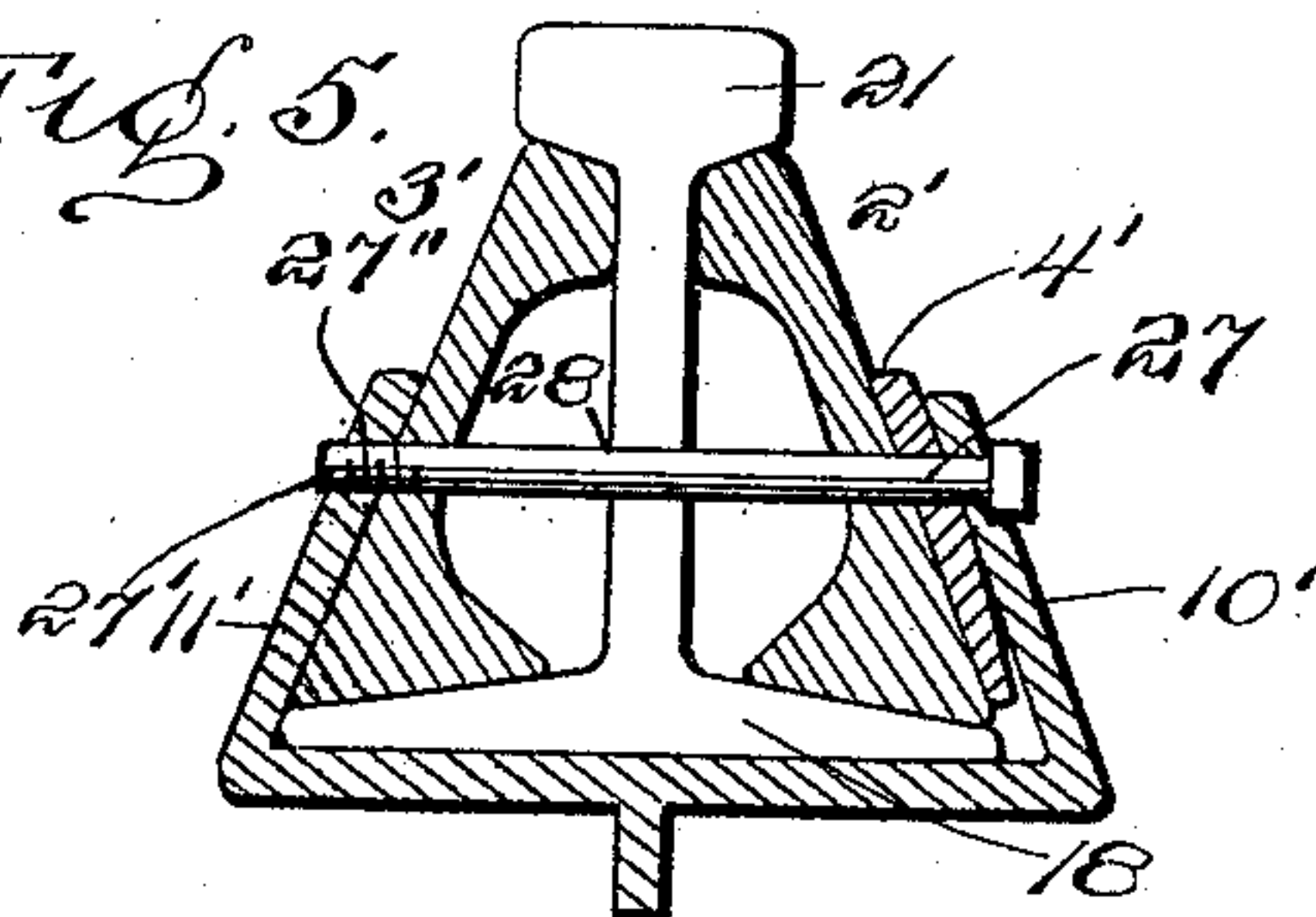


Fig. 5.



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# UNITED STATES PATENT OFFICE.

CHARLES M. RHODES, OF STEUBENVILLE, OHIO.

## RAIL-JOINT.

No. 819,457.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed February 8, 1906. Serial No. 300,137.

*To all whom it may concern:*

Be it known that I, CHARLES M. RHODES, a citizen of the United States of America, residing at Steubenville, in the county of Jefferson and State of Ohio, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in rail-joints; and the primary object of this invention is the provision of novel means for firmly securing the confronting ends of two sections of rails together without the use of nuts and bolts.

15 Another object of this invention is the provision of novel means for preventing a rail from slipping, spreading, or becoming displaced relative to its associate rail.

20 To this end I have devised a novel chair in which the confronting ends of two sections of rails are adapted to seat, and in connection with the chair I use fish bars or plates which are wedged or locked in engagement with the rails, whereby said rails become a fixture within the chair and cannot become easily displaced.

25 My improved rail-joint is constructed whereby it may be easily and quickly assembled and disassembled, thus permitting of one rail-section being withdrawn from its seat irrespective of the confronting end of its adjoining section.

30 The detail construction entering into my improved rail-joint will be hereinafter more fully described and claimed, and, referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

35 Figure 1 is a perspective view of the confronting ends of two sections of rails secured together by my improved rail-joint. Fig. 2 is a longitudinal sectional view of the chair of my improved joint, illustrating the novel manner in which I lock the fish-bars within the chair. Fig. 3 is a side elevation of a wedge-shaped locking member used in connection with the joint. Fig. 4 is a cross-sectional view of my improved joint, and Fig. 5 is a similar view illustrating a slightly-modified form of construction.

40 To put my invention into practice, I construct the various parts of my improved rail-joint of strong and durable metal, and the

parts consist of a chair 1, fish-bars 2 and 3, a locking-bar 4, and a locking-key 5.

The chair 1 consists of a base-plate 6, having a depending longitudinally-disposed rib 7, adapted to brace the rail-joint between two ties when the joint is located therebetween, also adapted to engage in the ballast of the road-bed of a railway and prevent the rail-joint and the ties to which the rails 8 and 9 are spiked from becoming displaced. The base-plate 6 is provided with upwardly-extending angularly-disposed side plates 10 and 11, the side plate intermediate its ends being provided with an opening 12. Above and below upon the inner side of the plate 10 are formed two inwardly-extending lugs or pins 14 and 15, and adjacent to the ends of the plate 10 are inwardly-extending lugs or pins 16 16, alining horizontally with the pin 14. The base-plate 6, adjacent to the side plate 11, is provided with two upwardly-extending lugs 17 17, one of these lugs being shown in Fig. 4 of the drawings.

The confronting ends of the rails 8 and 9 have their base-flanges 18 upon one side of the rail provided with notches 19, said notches being adapted to engage the lugs 17 17 when the rails 8 and 9 are positioned within the chair. The fish bars or plates 2 and 3 are mounted upon the base-flanges 18 of the rails and are adapted to embrace the web portions 20 and the heads 21 of said rails, the fish bar or plate 3 also engaging the inner side of the side plate 11 of the chair.

The fish bar or plate 2 is wedged against the rails 8 and 9 by the locking member 4, said locking member being inserted between the side plate 10 and the fish bar or plate 2. The locking member has its lower edge provided with angularly-disposed slots 22, 22, and 23, the locking member adjacent to the slot 23 being cut away, as at 24, and provided with an angularly-disposed groove 25, which enters the slot 23 of the locking member. After the fish-bars 2 and 3 have been placed within the chair and in engagement with the confronting ends of the rails 8 and 9 the wedge-shaped locking member 4 is forced downwardly between the fish bar or plate 2 and the side plate 10 of the chair, the slots 22 of the locking member engaging the pins 16 16 of the side plate 10, while the slot 23 of said member engages the pin 14 of the side plate 10, as clearly illustrated in Fig. 2 of the drawings. The locking-key 5 is then insert-



ed in the groove 25 of the locking member, and as this key is slightly bent the end 26 of the key is adapted to pass between the pin 15 and the cut-away portion 24 of the locking member, and by driving the key inwardly the end of the key can be further bent, whereby it will be impossible for the same to become detached from the locking member.

The opening 12 in the side of the plate 10 is provided whereby a cold-chisel or the like instrument may be inserted therein to sever the end 26 of the key 5 when it is desired to disassemble the joint.

In Fig. 5 of the drawings I have illustrated a slightly - modified form of construction wherein a single bolt 27 is employed for securing the fish bars or plates 2' 3', the locking member 4', and the side plates 10' and 11' together, the side plates, locking member, and fish bars or plates being provided with openings through which the bolt passes. In this instance the confronting web portions of the rails 8 and 9 are provided with grooves which form an opening 28 between the ends of the rails, and through this opening the bolt 27 is adapted to pass. The screw-threaded end 27' of the bolt engages in the threaded opening 27'' in the plate 11'.

Such changes in the construction of my improved rail-joint 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, is—

1. In a rail-joint, the combination with two rail-sections, the base-flanges of said sections having notches formed therein, of a chair adapted to embrace said sections, a depending rib carried by said chair, side plates car-

ried by said chair, lugs or pins carried by said chair, some of said lugs engaging in the notches of said rails, fish-bars mounted in said chair, and embracing said rails, a locking member mounted between one of said fish-bars and one of said side plates, said member having slots formed therein engaging the other of said lugs, a locking-key inserted between said locking member and one of said side plates, and engaging some of said lugs, said side plate having an opening formed therein adjacent to said key, substantially as described.

2. In a rail-joint, the combination with two rails, of a chair, a depending rib carried by said chair, side plates carried by said chair, fish-bars mounted in said chair between said rails and said side plates, a locking member inserted between one of said side plates and one of said fish-bars, lugs carried by said side plate and engaging said member, a key inserted between said member and said side plate, to lock said fish-bars and said locking member within said chair, substantially as described.

3. In a rail-joint, the combination with rails, of a chair, side plates carried by said chair, fish-bars mounted in said chair between said rails, and said side plates, a locking member inserted between one of said fish-bars and one of said side plates, lugs carried by one of said side plates and engaging said locking member, and means to lock said member within said chair, substantially as described.

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

CHARLES M. RHODES.

Witnesses:

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