

No. 686,117.

Patented Nov. 5, 1901.

W. H. NORRIS.

RAIL JOINT.

(Application filed Aug. 3, 1901.)

(No Model.)

Fig. 1.

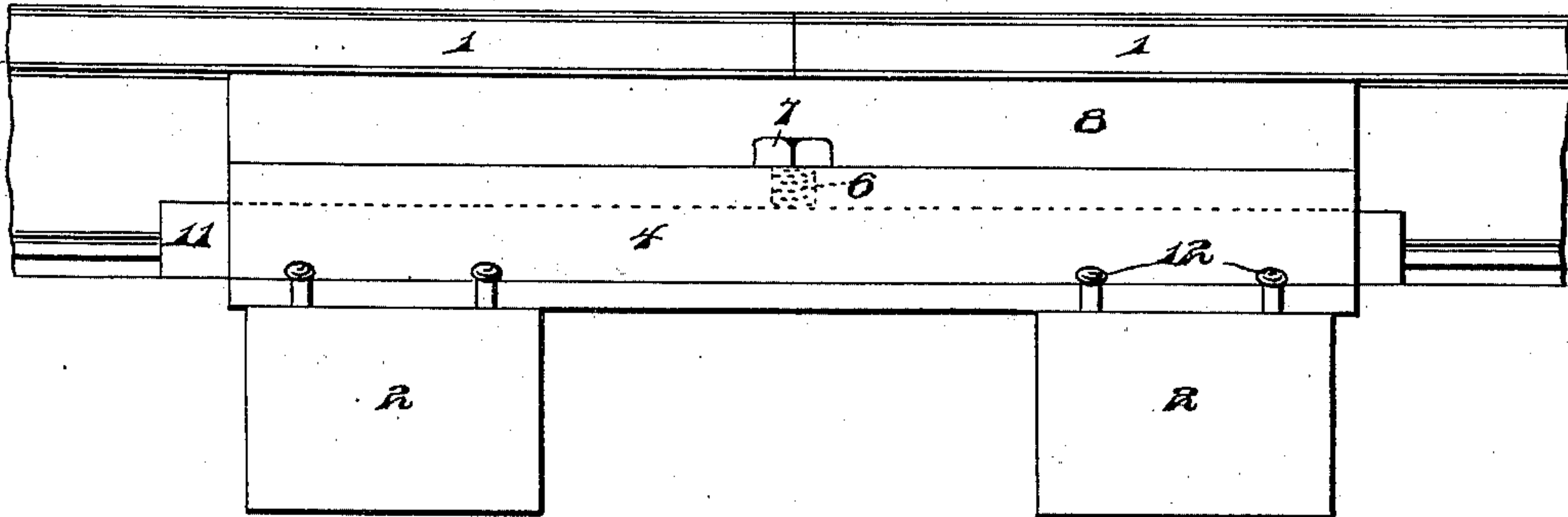


Fig. 2.

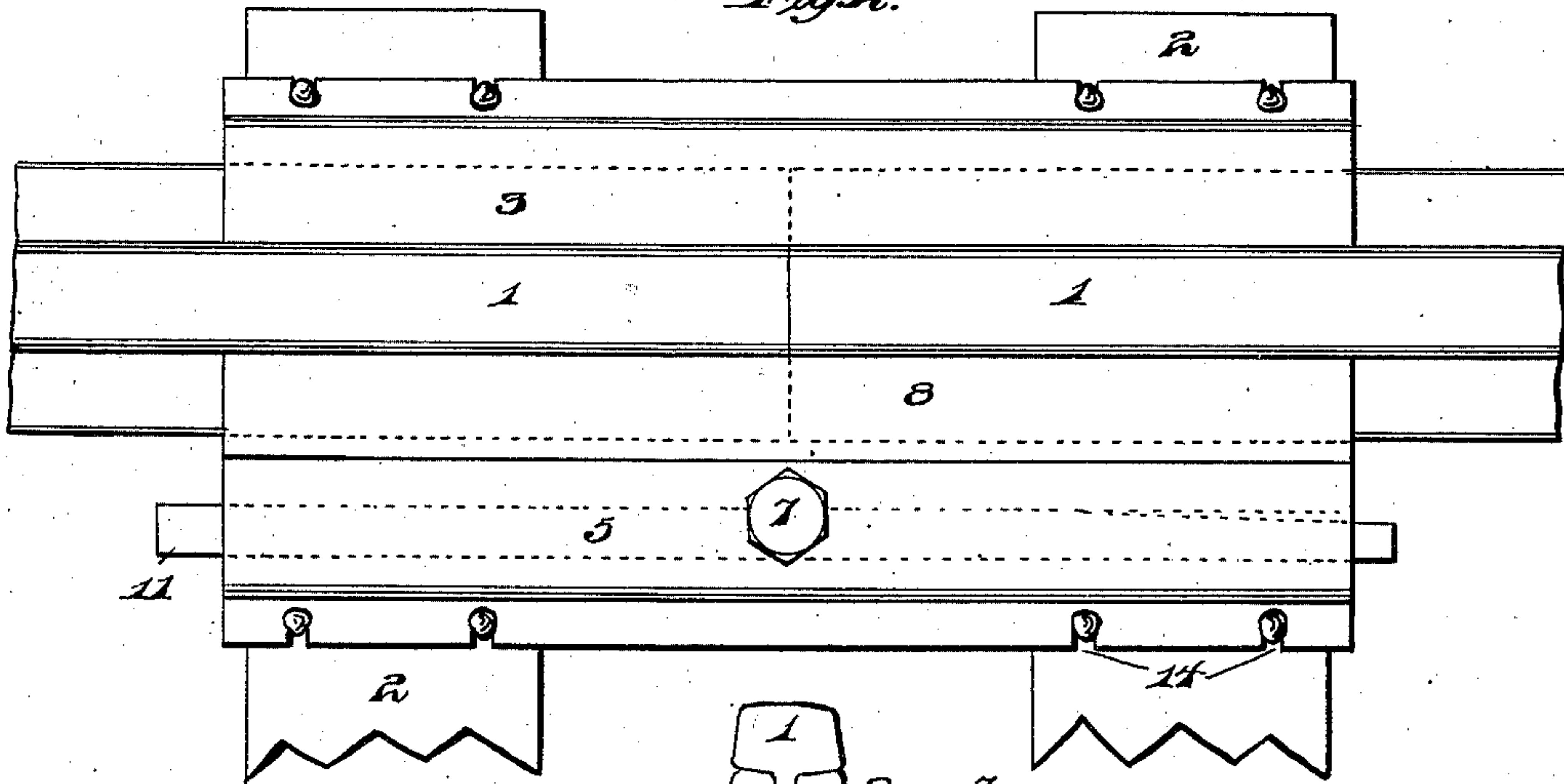


Fig. 3.

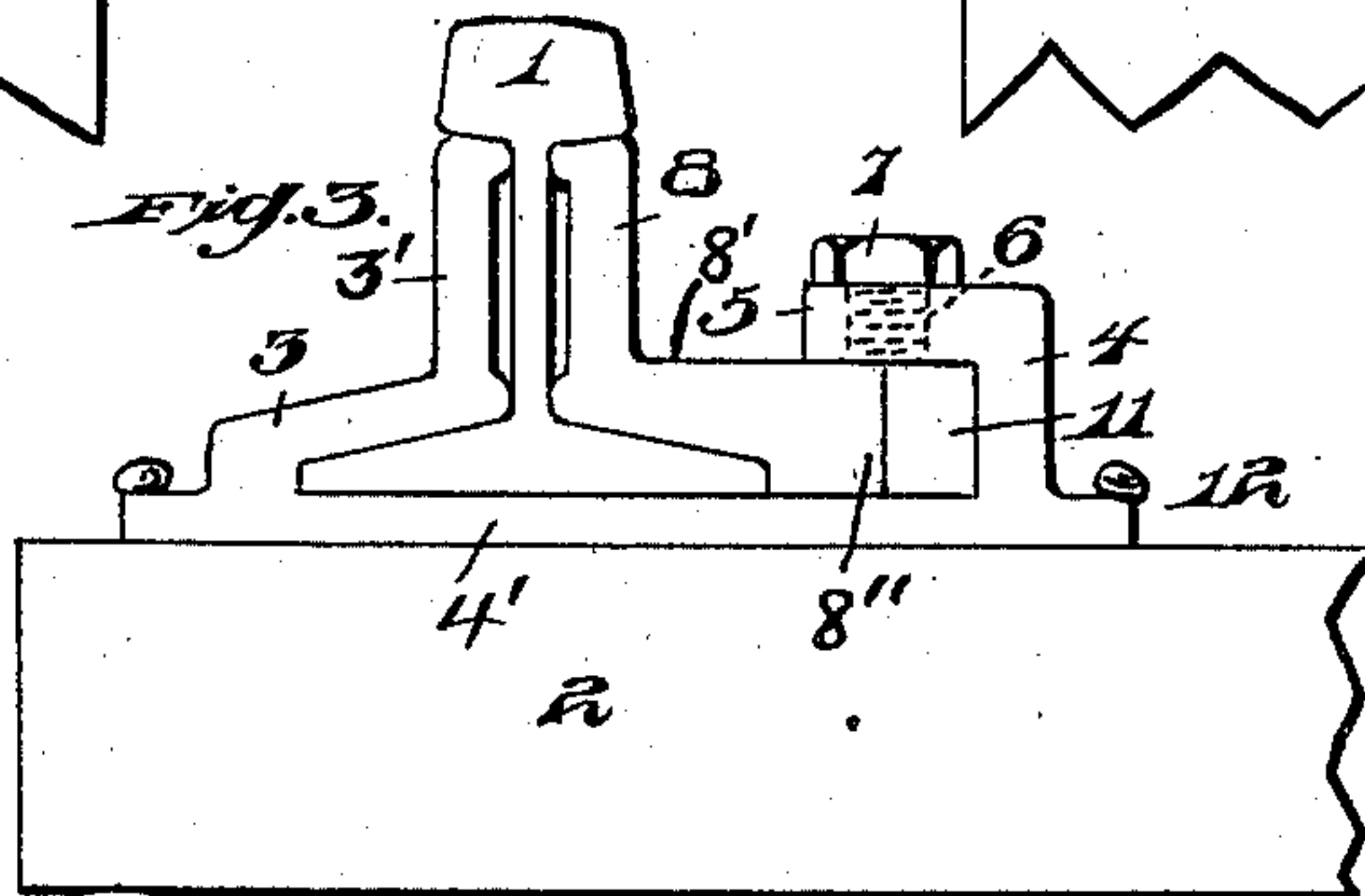


Fig. 5.

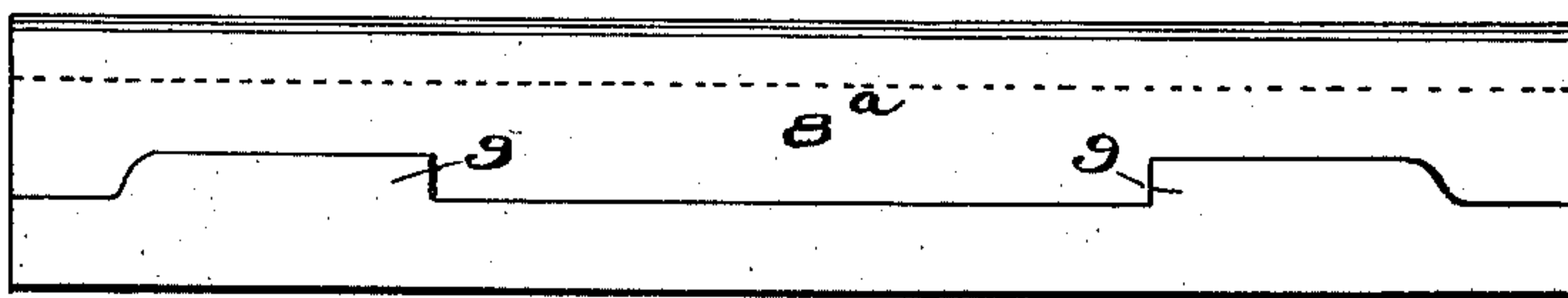
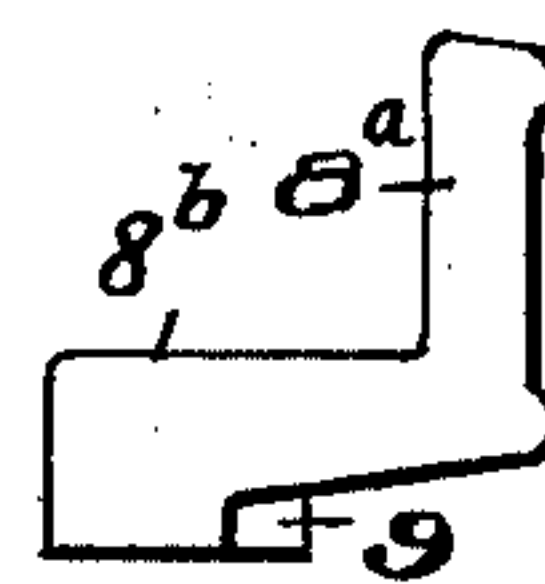
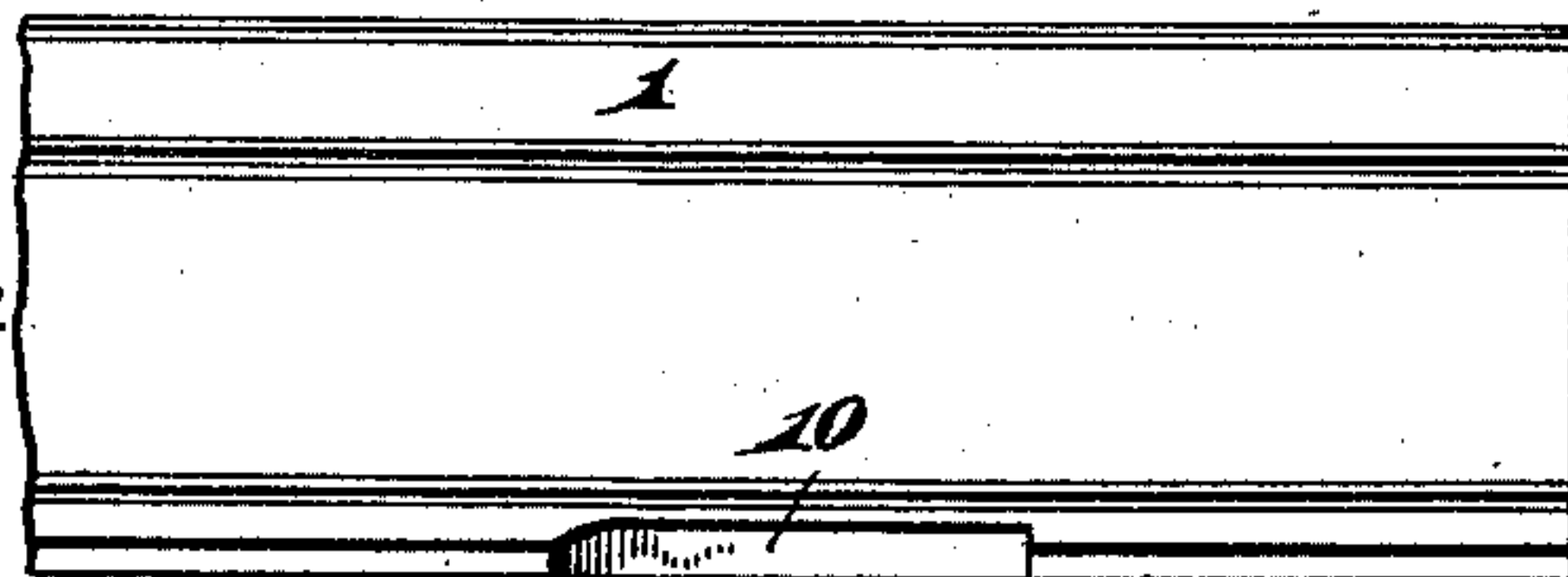


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM H. NORRIS, OF TARENTUM, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 686,117, dated November 5, 1901.

Application filed August 3, 1901. Serial No. 70,784. (No model)

To all whom it may concern:

Be it known that I, WILLIAM H. NORRIS, a citizen of the United States of America, residing at Tarentum, in the county of Allegheny and State of Pennsylvania, 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 relates more particularly to that class wherein the use of nuts and bolts is entirely dispensed with.

15 The invention has for its object the provision of novel means whereby two rail-sections may be easily joined together and firmly retained in position, preventing the rails from spreading or creeping.

20 Another object of the present invention is to provide means that will allow the contraction and expansion of the rails which is caused by the atmospheric changes.

25 Another object of the invention is to provide means that will allow the rail to be placed in proper position and seat itself in the chair without the necessity of sliding the rail in endwise.

30 A still further object of the invention is to construct a device of this character that will be extremely simple in construction, strong, durable, comparatively inexpensive to manufacture, and highly efficient in its use.

35 With the above and other objects in view the invention consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

40 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate corresponding parts throughout the several views, in which—

45 Figure 1 is a side elevation of two sections of rails having my improved rail-joint attached thereto. Fig. 2 is a top plan view thereof. Fig. 3 is an end view of the same. Fig. 4 is a plan view of a modified form of locking fish-plate. Fig. 5 is an end elevation thereof. Fig. 6 is a side elevation of the rails

as constructed to be employed in modified form of locking fish-plate.

In the drawings, 1 indicates the rails, and 2 the cross-ties which support the same. The joint is effected by means of a chair 3, having an integral fish-plate 3' and an integral base 4'. This base 4' carries near its edge opposite the integral fish-plate an upwardly-extending web 4, which is turned inwardly at its upper end at right angles to form an overlying portion or plate 5. This portion or plate 5 is provided about midway of its length with a threaded aperture 6 to receive a set-screw 7 for a purpose as will be more fully explained. In conjunction with the chair, which comprises the fish-plate 3', base 4', web 4, and overlying portion or plate 5, I employ a locking fish-plate 8, the web of which conforms to the web of the fish-plate 3' and the base 8' of which engages the upper face of the rail-base at one side of the web thereof, this base portion being of increased thickness along its outer edge, as at 8'', so as to engage with and fit neatly between the overlying plate 5 and base 4'. After plate 8 has been placed in position a wedge 11 is inserted in the space between the outer edge of the flange 8' and the inner wall of the web 4, where it is held against displacement by means of the set-screw 7.

In the modified form of construction shown in Figs. 4, 5, and 6 the locking fish-plate 8^a is provided along the inner edge of its flange 8^b with projections 9 to engage in recesses 10, provided therefor in the edge of the rail-base. The device is securely fastened to the cross-ties by spikes 12, which engage through openings 14, provided therefor. The rails are first placed in position on the base 4', with the web thereof engaging the fish-plate 3'. The locking fish-plate 8 is then placed in position against the opposite side of the rail-web and the wedge 11 inserted and driven in, so as to firmly hold the locking fish-plate, the wedge being held in position by the set-screw 7. In the modified form of construction the projections 9 will be forced into the recesses 10 as the wedge is driven in, the wedge in this construction being secured by the set-screw, as in the preferred form of construction.

When it is desired to remove the rails, it is

only necessary to loosen the set-screw, remove the locking fish-plate, and the rail may be easily removed without the necessity of tearing up the track in order to release the rail from the rail-joint endwise.

The many other advantages obtained by the use of my improved device will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In a rail-joint, a chair comprising a base receiving the rail-base, an integral fish-plate carried by said base on one edge thereof, an upwardly-extending web made integral with the other edge of said base and away from the rail-base, an inwardly-extending overlying plate made integral with said web and of greater height than the height of the rail-base, a locking fish-plate having an enlarged flange engaging said overlying plate and the chair-base, said enlarged flange located away from said web, a wedge engaging the under face of the overlying plate, the outer edge of said enlarged flange, the chair-base and the inner face of the web, a set-screw extending through

the said overlying plate and engaging the said wedge and enlarged flange, and spikes engaging the extremities of said chair-base and the ties, substantially as described.

2. In a rail-joint, the combination with the rails, of a chair comprising a base, an integral fish-plate carried by said base adjacent to one edge thereof, an upwardly-extending web carried by the base adjacent to the other edge thereof, an inwardly-extending overlying plate carried by said web, a locking fish-plate having a flange provided with a thickened edge which fits between the overlying plate and the base of the chair, there being space between said thickened edge and the web, projections carried by the flange of said locking fish-plate to engage in recesses provided therefor in the edge of the rail-base, a wedge to engage in the space between the web and the thickened edge of the locking-fish-plate flange to bind the locking fish-plate in position, and a set-screw inserted through the overlying plate and engaging said wedge to secure the latter in position, substantially as described.

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

WILLIAM H. NORRIS.

Witnesses:

JOHN NOLAND,
E. E. POTTER.