

No. 806,023.

PATENTED NOV. 28, 1905.

G. W. THURMAN.

RAIL JOINT.

APPLICATION FILED DEC. 27, 1904.

2 SHEETS—SHEET 1.

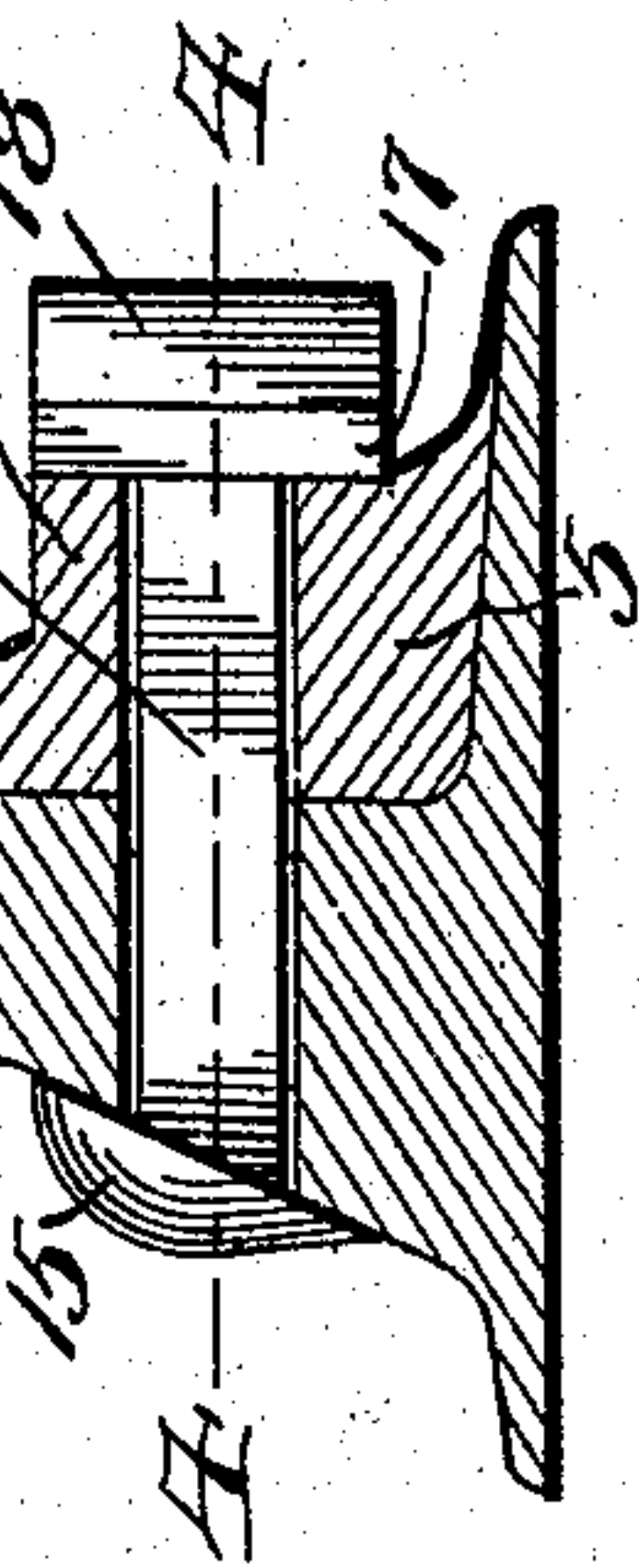
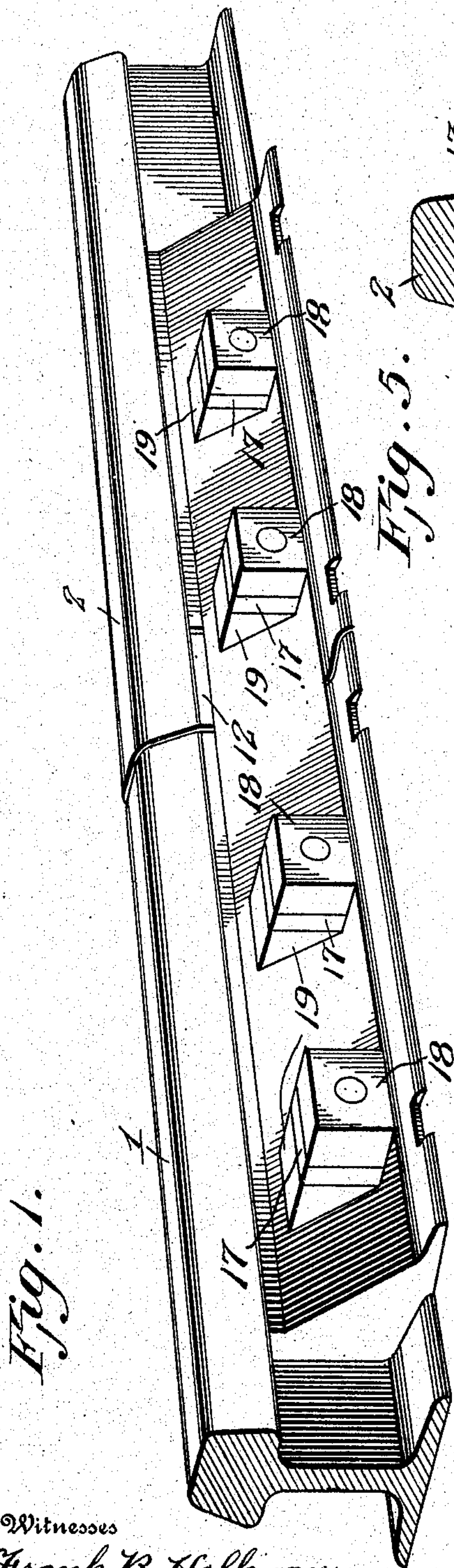
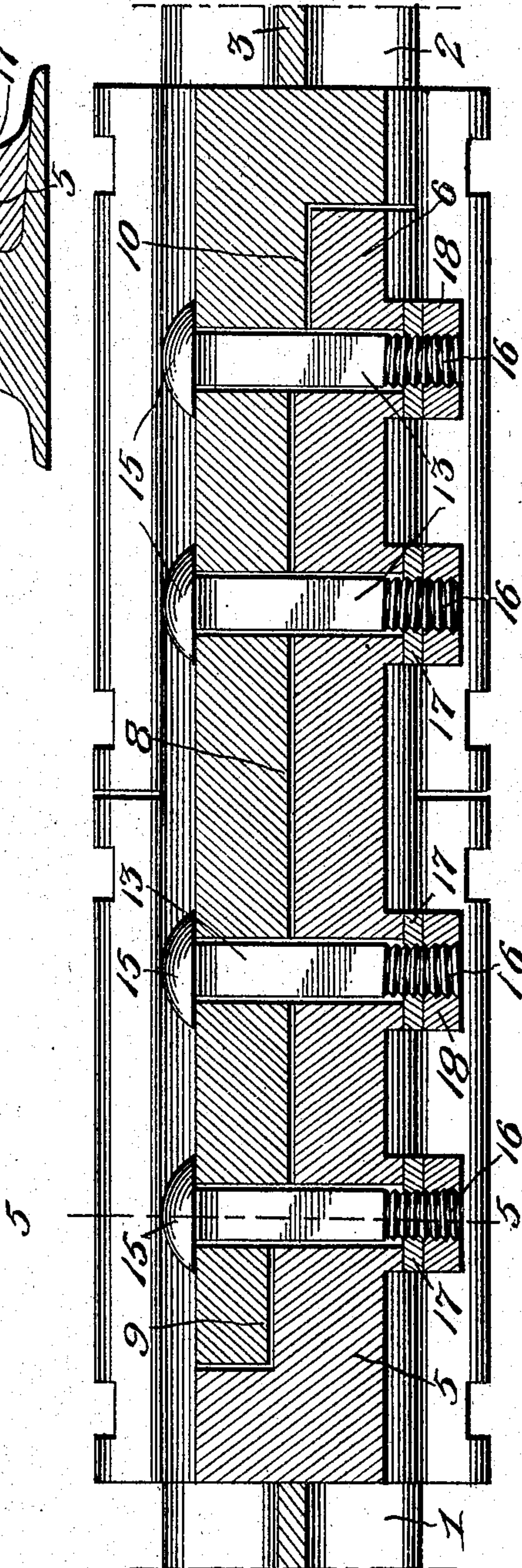


Fig. 4.



Inventor

G. W. Thurman.

Witnesses
Frank B. Hoffman.
J. A. Elmore

By Victor J. Crane
Attorney

No. 806,023.

PATENTED NOV. 28, 1905.

G. W. THURMAN.
RAIL JOINT.

APPLICATION FILED DEC. 27, 1904.

2 SHEETS—SHEET 2.

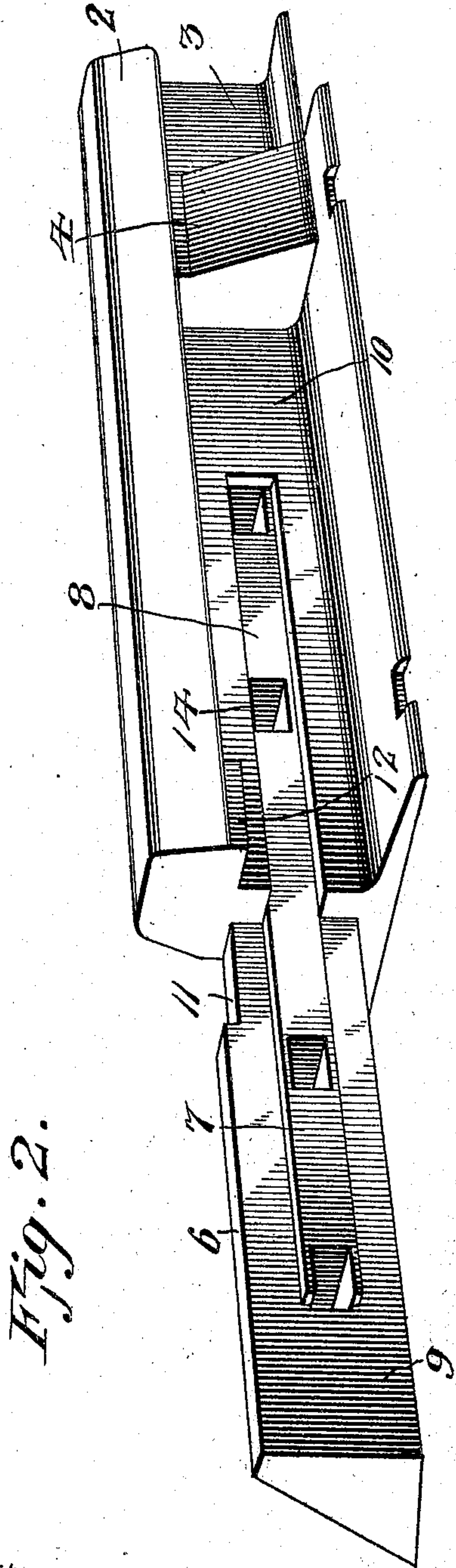
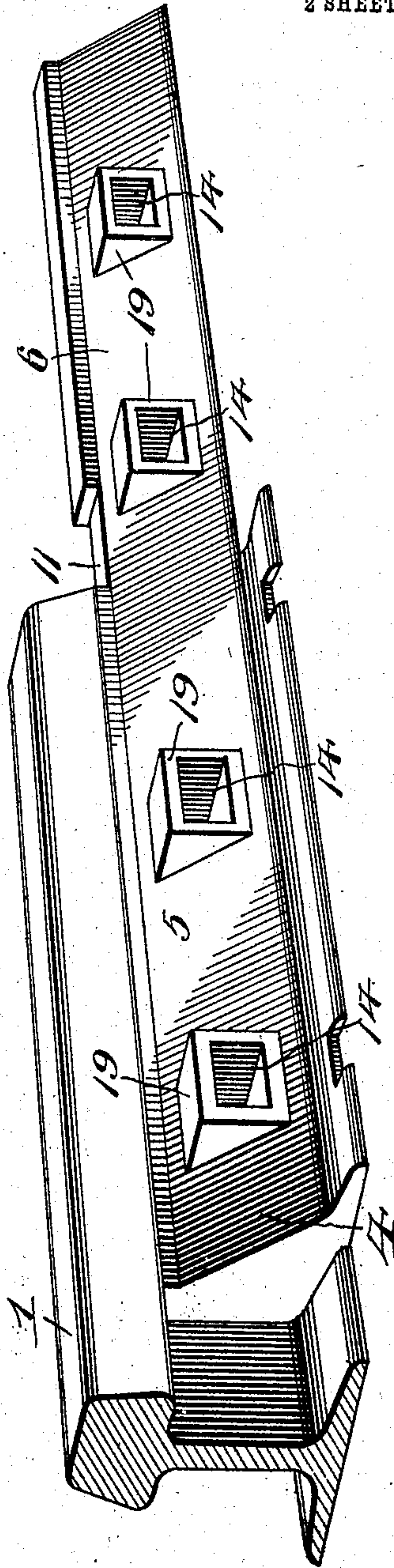


Fig. 3.



Witnesses

Frank B. Hoffman.

D. S. Elmore

Inventor

G. W. Thurman.

By

Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

GEORGE W. THURMAN, OF CACHE, OKLAHOMA TERRITORY.

RAIL-JOINT.

No. 806,023.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed December 27, 1904. Serial No. 238,349.

To all whom it may concern:

Be it known that I, GEORGE W. THURMAN, a citizen of the United States, residing at Cache, in the county of Comanche, Oklahoma Territory, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail-joints, and has for its objects to produce a simple inexpensive device of this character in which the employment of fish-plates is wholly dispensed with, one in which relative vertical movement of the rail-sections is prevented, thereby obviating pounding of the rail ends, and one wherein the meeting ends of the rails are susceptible of relative longitudinal movement to allow for expansion and contraction.

A further object of the invention is to provide an improved fastening member or bolt for connecting the sections of the joint whereby liability of the nuts or taps becoming loosened owing to vibration of the rails or other causes is entirely overcome.

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of a rail-joint embodying the invention. Fig. 2 is a perspective view of one of the rail-sections. Fig. 3 is a similar view of the companion rail-section. Fig. 4 is a horizontal longitudinal section through the joint, taken on the line 4-4 of Fig. 5. Fig. 5 is a vertical transverse sectional elevation, the section being taken on the line 5-5 of Fig. 4.

Referring to the drawings, 1 and 2 designate the rail-sections, adapted to be assembled in endwise relation, these rails, except as hereinafter described, being of the usual or any appropriate construction and material. Each section has formed thereon at a point suitably remote from its terminal and at one side of its web 3 a block or abutment 4, extended between the tread and base-flange of the rail, and at the other side of its web a splicing member or bar 5, which projects beyond the terminal of the rail, the projecting portion 6 of the bar being of a length coincident with the distance between the terminal of the companion rail and abutment 4, whereby when the rails are assembled the splicing-bars will each bear at its outer end against the block 4 on the companion rail-section.

Each of the splicing-bars 5 has upon its

inner face and adjacent its vertical center a horizontal longitudinally-projecting tongue or rib 7 of substantially rectangular form in cross-section and of a width equaling substantially half the thickness of the web 3, which latter is provided with a longitudinal groove or recess 8 in longitudinal alinement with and of a cross-sectional form corresponding to that of the rib 7, the groove being terminated at its inner end and the tongue 7 at its outer end at points equally remote, respectively, from the adjacent block 4 and terminal of the splicing-bar 5. There is thus produced upon the inner face of each splicing-bar adjacent its outer end a flat bearing-face 9, adapted when the rail-sections are assembled to contact with a corresponding flat bearing-face 10, produced upon one side of the web 3 of the companion rail-section at a point between the block 4 and terminal of the groove 8.

The upper edge of each splicing-bar is recessed at a point contiguous to the terminal of the rail-section to provide a seat or recess 11 for the reception of a depending engaging portion or lug 12, formed at the terminal of the rail upon the under side of its tread, the lug on one rail-section being adapted when the parts are assembled to seat in the recess 11 of the other rail-section, thus to limit relative longitudinal movement of the sections 1 and 2, while vertical movement of the latter relatively is prevented owing to the rib or projection 7 on one section seating in the corresponding groove 8 of the other section and, further, through the upper and lower edges of the bar extensions 6 bearing upon the adjacent faces of the treads and bases of the companion rail-sections.

The sections are secured in assembled position by means of transverse bolts 13 of rectangular form in cross-section and extended through transverse bolt-receiving openings 14 of rectangular form to agree with the cross-sectional shape of the bolts, the bolts being provided at one end with heads 15 and at the other end with cylindrical threaded portions 16, each equipped with two sets of threads pitched in reverse directions for engagement, respectively, with nuts or taps 17 18.

Formed upon the outer face of each splice-bar is a series of bearing lugs or projections 19, corresponding in number to and through which the openings 17 are continued. These lugs present vertical outer bearing-faces

against which the inner nuts 17 bear when the parts are in assembled position and the bolts in place.

In practice the rail-sections are assembled, as usual, in endwise relation, with the extended portion 6 of each splice-bar overlapping the end of the companion rail and the lug 12 on each rail seated in the recess 11 of the other rail, as heretofore explained, the tongues 7 being under these conditions in the corresponding grooves 8 and the blocks 4 disposed at the terminals of the adjacent splice-bars. The bolts 13 are then placed in position and each secured by means of a pair of taps 17 18, which are engaged, respectively, with the reversely-threaded portions of the bolt-spindles 16, whereby the nuts serve to lock each other in place and are prevented from escaping from the bolts owing to jar-ring of the rails or other causes. It is to be particularly observed that the bolt-receiving openings are of somewhat larger diameter than the bolts and, further, that a corresponding amount of play is permitted between the meeting ends of the rail-sections and the outer terminals of the splice-bars 5 and adjacent abutments 4, whereby provision is made for the necessary expansion and contraction of the rails, while at the same time this longitudinal movement is limited through the medium of the engagement of the lugs 12 with the recesses 11 and the contact of the abutments 4 with the terminals of the splice-bars.

From the foregoing it is apparent that I produce a simple efficient device which in practice will admirably perform its functions to the attainment of the ends in view, it being understood that minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention.

Having thus fully described the invention, what is claimed as new is—

1. A rail-section, a splice-bar carried wholly by the web of and projected beyond the terminal of the section, said bar having upon its normally inner face a horizontal longitudinally-extending rib, and a corresponding groove formed in alinement with said rib.

2. A rail-section, a splice-bar carried wholly by the web of and projected longitudinally beyond said section and constituting an extension, the section having a longitudinally-extended recess formed wholly therein, and a horizontal rib formed upon the normally inner face of the extension in alinement and adapted to conform to said recess.

3. In a rail-joint, a pair of rail-sections adapted to be assembled in endwise relation, splice-bars carried wholly by the webs of the rail-sections and each adapted to overlap the end of the companion section, longitudinal grooves provided wholly in the rail-sections, and horizontally-projecting longitudinal ribs formed wholly upon the inner faces of the splice-bars and each designed to fit in the groove of the companion rail-section.

4. In a rail-joint, a pair of rail-sections having overlapping splice-bars, longitudinal laterally-projecting ribs formed upon the inner faces of the splice-bars, the sections being provided with longitudinal grooves each adapted to receive the rib of the companion section, vertically-depending engaging lugs provided adjacent the terminals of the rail-sections, and vertically-opening seats formed in the sections each for the reception of the lug on the companion section to lock the sections against longitudinal movement.

5. A rail-section comprising a tread, web and base-flange, a splice-bar carried wholly by the web of and projecting beyond the terminal of the rail-section, said bar being designed to seat between the tread and base-flange and to lie against one side face of the web of a companion rail-section, the rail-section having a longitudinally-extended groove formed in its web between its tread and base-flange, and a longitudinally-extending rib formed wholly upon the bar in alinement with and adapted to conform to the groove.

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

GEORGE W. THURMAN.

Witnesses:

ROBT. BUCKER,

EDWARD J. SHATTLER.