

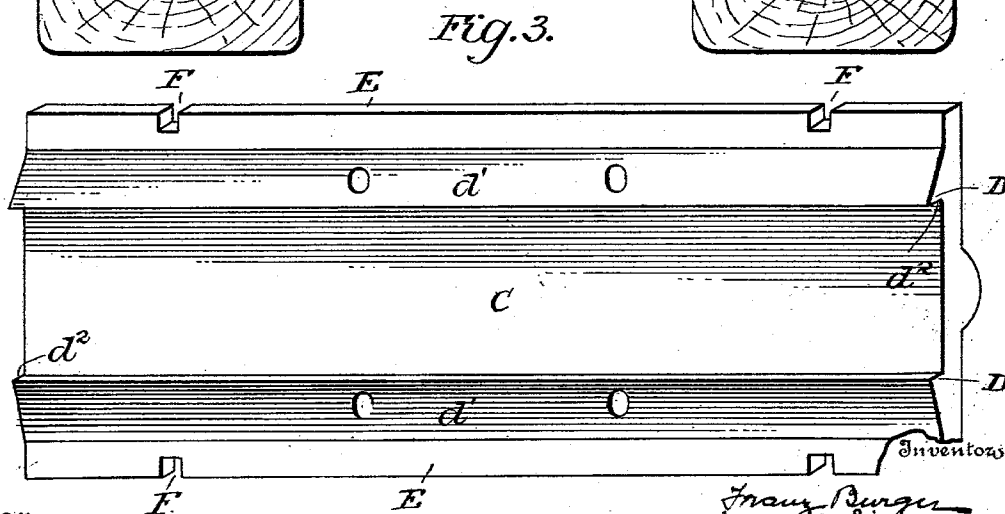
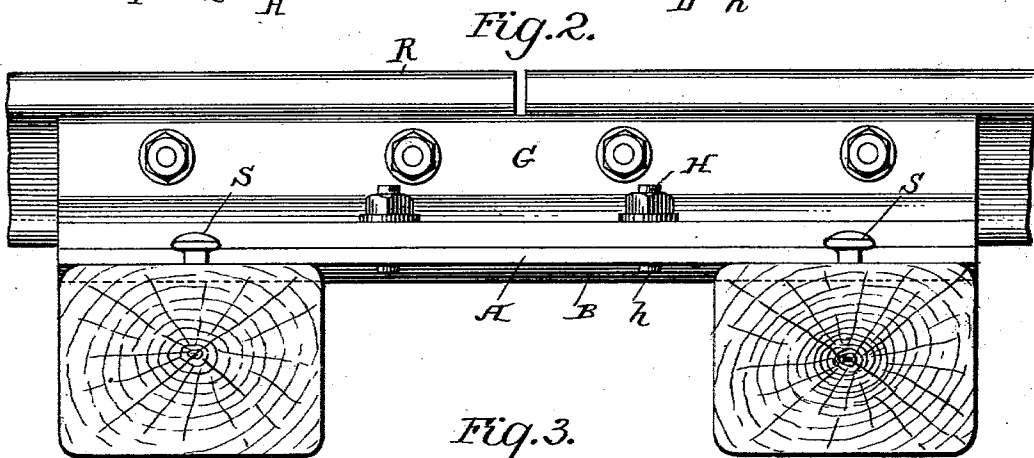
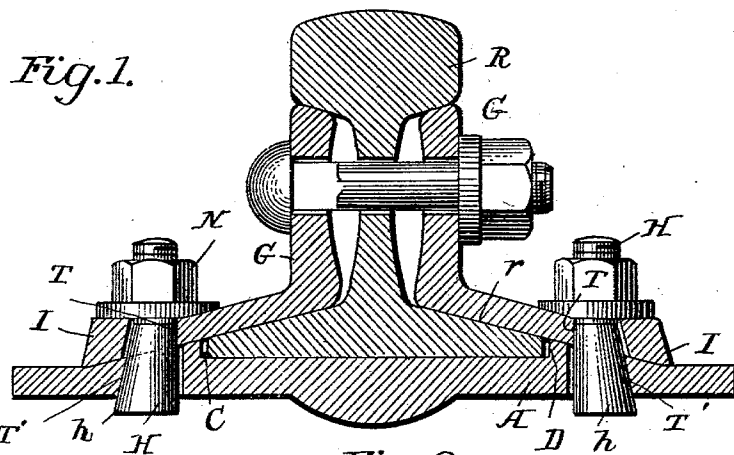
F. BURGER & H. M. WILLIAMS.

RAIL JOINT.

(Application filed Dec. 16, 1901.)

(No Model.)

3 Sheets—Sheet 1.



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Fig. 4.

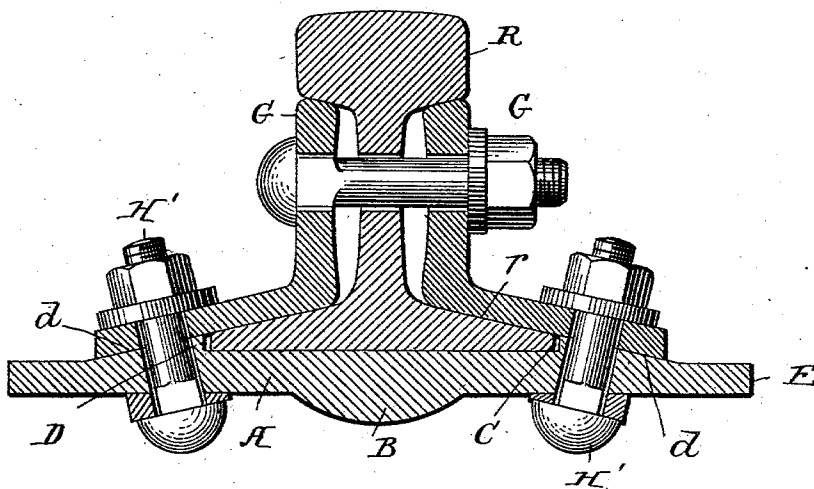
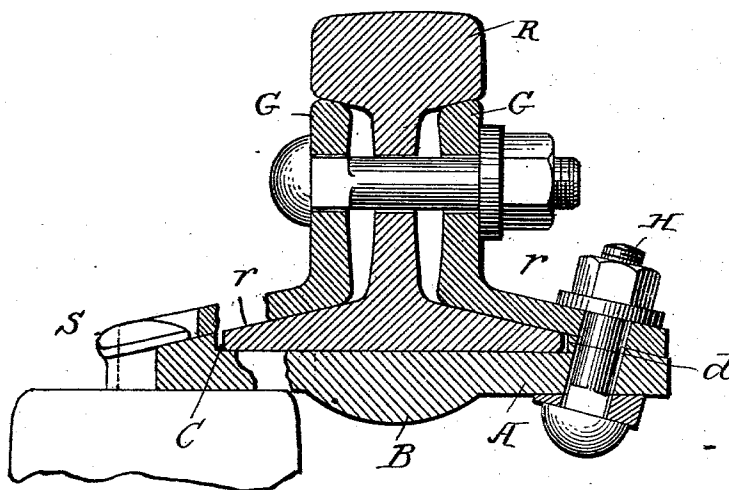


Fig. 7.



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Fig. 5.

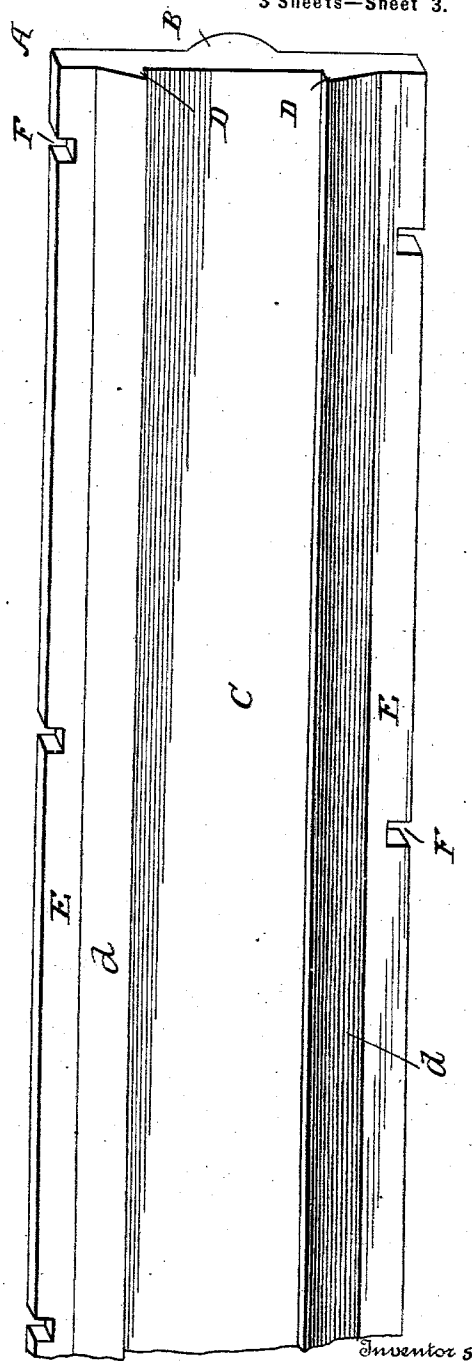
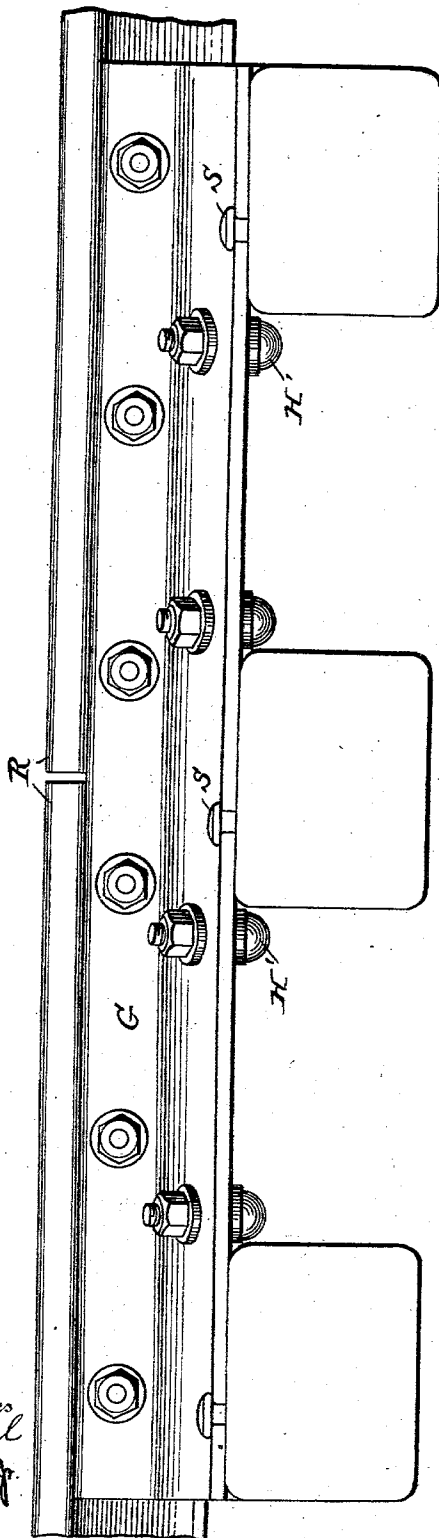


Fig. 6.

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UNITED STATES PATENT OFFICE.

FRANZ BURGER AND HENRY M. WILLIAMS, OF FORT WAYNE, INDIANA; SAID
BURGER ASSIGNOR OF ONE-HALF OF HIS RIGHT TO SAID WILLIAMS.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 715,241, dated December 9, 1902.

Application filed December 16, 1901. Serial No. 86,147. (No model.)

To all whom it may concern:

Be it known that we, FRANZ BURGER and HENRY M. WILLIAMS, citizens of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

Our invention relates to rail-joints; and its object is to improve upon rail-joints heretofore devised and to increase the strength and stability of such joints.

Our invention consists in the improved rail-joint hereinafter fully described and shown in the accompanying specification and drawings, in which—

Figure 1 is a transverse sectional view of a rail-joint made according to our invention. Fig. 2 is a side elevation of the same. Fig. 3 is a plan view of the base-plate; Fig. 4, a transverse sectional view of a modification. Fig. 5 is a side elevation of a three-tie joint. Fig. 6 is a plan view of the base-plate, and Fig. 7 is a transverse sectional view of another modification.

Referring to the drawings, A represents a base-plate for the rail-joint to be placed beneath the meeting ends of rails, and this plate has a longitudinal rib B on the under side adapted to be embedded in the ties as a means, in addition to the spikes, for preventing lateral movement of the base-plate. The base-plate is also provided with a longitudinal slot C on its upper side formed by shoulders D, having portions d with surfaces d' inclined downward from the inner edges d^2 of the shoulders at the same angle as the upper surface of the base of a rail R, this upper surface of the base of the rail being represented by r . The shoulders D are also provided with horizontal portions E, extending outwardly from the inclined portions, and suitable notches F are provided in the base-plate (shown in the horizontal portions E) for the reception of spikes S.

In assembling the rails and parts of the rail-joint a rail R is seated within the slot C and fish-plates G are arranged adjacent to the rail and extending over the base of the rail and over the inclined portions of the shoulders D, and bolts are then passed through the fish-

plates and said inclined portions of the shoulders for holding the fish-plates to the base-plate, while other bolts pass through the vertical portions of the fish-plates and the web of the rail.

In Fig. 1 tapered wedge-bolts H are shown passing through slots in the fish-plates and base-plate, these slots being somewhat wider laterally than the bolts H, and the wider portions h of the bolts or heads are placed in the slots in the base-plate. The fish-plates are provided with thickened portions I, and the arrangement of slots and bolts is such that upon tightening up the nuts N there will be a bearing between the fish-plate and bolt at the point T and a bearing between the base-plate and bolt at the point T', so that the fish-plate will be forced against the rail.

In Fig. 4 the bolts H' are shown passing through the fish-plates and the inclined portions of the shoulders of the base-plates; but the bolts are arranged at substantially right angles to the inclination of the flanges of the fish-plates or at right angles to the upper surface of the fish-plates. In this way a firm connection is made between the fish-plates and base-plate, and it is preferred to use a wedge-shaped washer in this construction.

In Fig. 7 the horizontal portions of the base-plate extending from the inclined portions of the shoulders are dispensed with, and the inclined portions of the shoulders, as well as the fish-plates, are slotted for the reception of the spikes S.

Figs. 5 and 6 are views of a three-tie rail-joint made in substantially the same manner as those herein described.

Without limiting ourselves to the precise construction and arrangement shown and described, what we claim is—

1. In a rail-joint, the combination of a base-plate having a slot in the upper side formed by shoulders having portions inclined downward from the slot, a rail seated in the slot, fish-plates extending over the base of the rail and the shoulders, and bolts passing through the fish-plates and shoulders on the base-plate, substantially as described.

2. In a rail-joint, the combination of a base-plate having a slot in the upper side formed by shoulders having portions inclined down-

ward from the slot and also having horizontal portions extending from the inclined portions, a rail seated in the slot, fish-plates extending over the base of the rail and the shoulders, bolts for securing the fish-plates to the base-plate, and notches in the base-plate, substantially as described.

3. A base-plate for a rail-joint having a longitudinal rib on the under side and a slot in the upper side formed by shoulders having portions inclined downwardly from the slot and also having horizontal portions extending from the inclined portions, and notches in said horizontal portions, substantially as described.

4. A base-plate for a rail-joint having a slot in the upper side formed by shoulders having portions inclined downwardly from the slot and also having horizontal portions extending from the inclined portions, and notches in the horizontal portions, substantially as described.

5. In a rail-joint, the combination of a base-plate having a longitudinal rib on the under side and a slot on the upper side, said slot being formed by shoulders having portions with surfaces inclined downward from the inner edges of the shoulders at the same angle as the upper surface of the base of the rail, said shoulders also having horizontal portions extending from the inclined portions, a rail seated within the slot, fish-plates extending over the base of the rail and over the inclined portions of the shoulders, bolts passing through the fish-plates and said inclined portions, and notches in the horizontal portions of the shoulders for the reception of spikes, substantially as described.

6. In a rail-joint, the combination of a base-plate having a slot on the upper side formed by shoulders inclined downwardly from the inner edges of the shoulders, a rail seated within the slot, fish-plates extending over the base of the rail and over the inclined portions of the shoulders, tapered bolts passing through slots in the fish-plates and said inclined portions of the shoulders, said slots being wider laterally than the bolts, and notches in the base-plate for spikes, substantially as described.

7. In a rail-joint, the combination of a base-plate having a longitudinal slot on the upper side formed by shoulders having portions with surfaces inclined downward from the inner edges of the shoulders at the same angle as the upper surface of the base of the rail, said shoulders also having horizontal portions extending from the inclined portions, a rail seated within the slot, fish-plates extending over the base of the rail and provided with thickened portions extending over the inclined portions of the shoulders, tapered bolts passing through slots in the thickened portions of the fish-plates and said inclined portions of the shoulders, said slots being wider laterally than the bolts, and notches in the horizontal portions of the base-plate, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FRANZ BURGER.
HENRY M. WILLIAMS.

Witnesses:

GEO. D. CRANE,
H. M. GILLMAN, Jr.