

No. 754,458.

PATENTED MAR. 15, 1904.

T. J. KITTO.
RAILWAY CROSS TIE.

APPLICATION FILED OCT. 29, 1903.

NO MODEL.

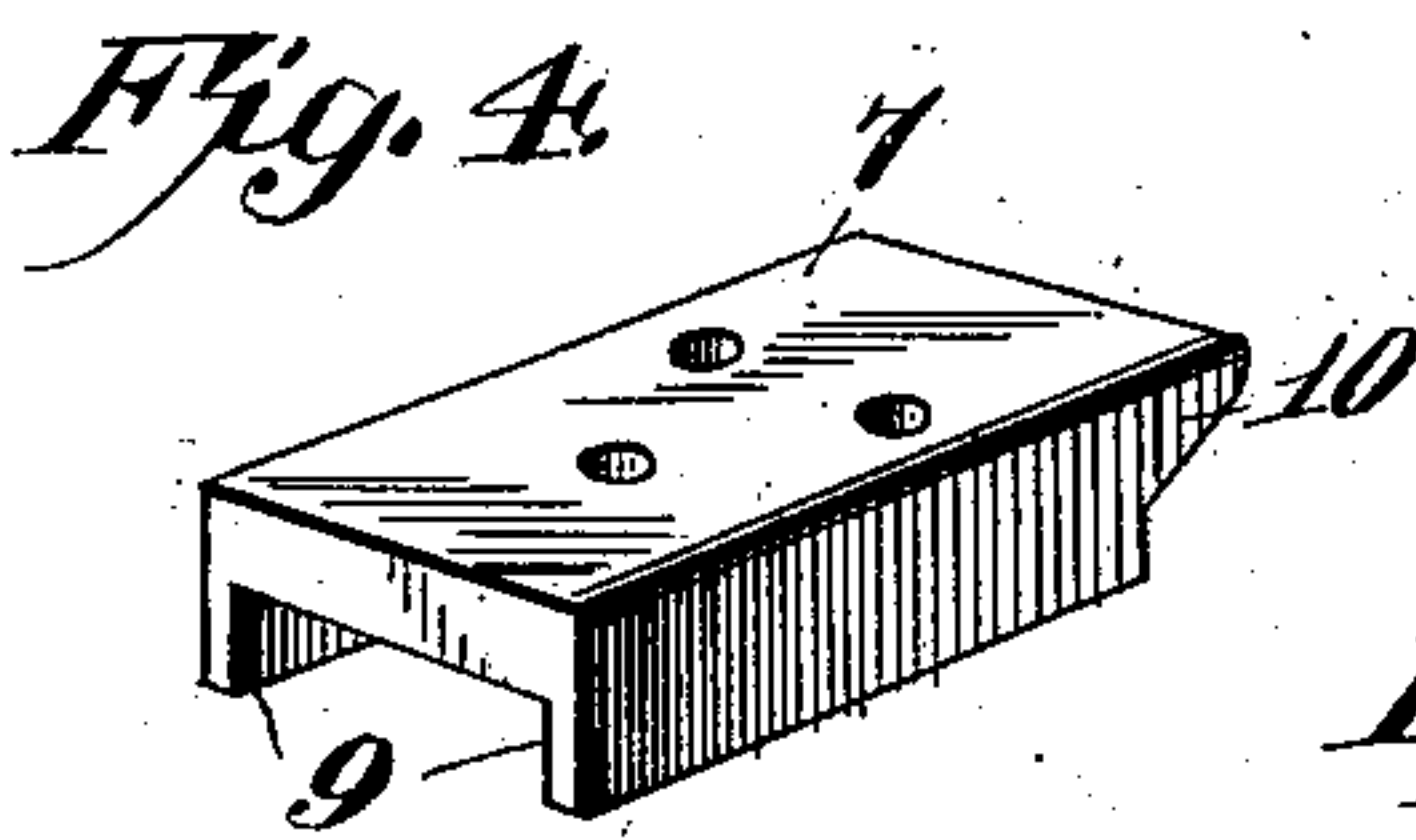
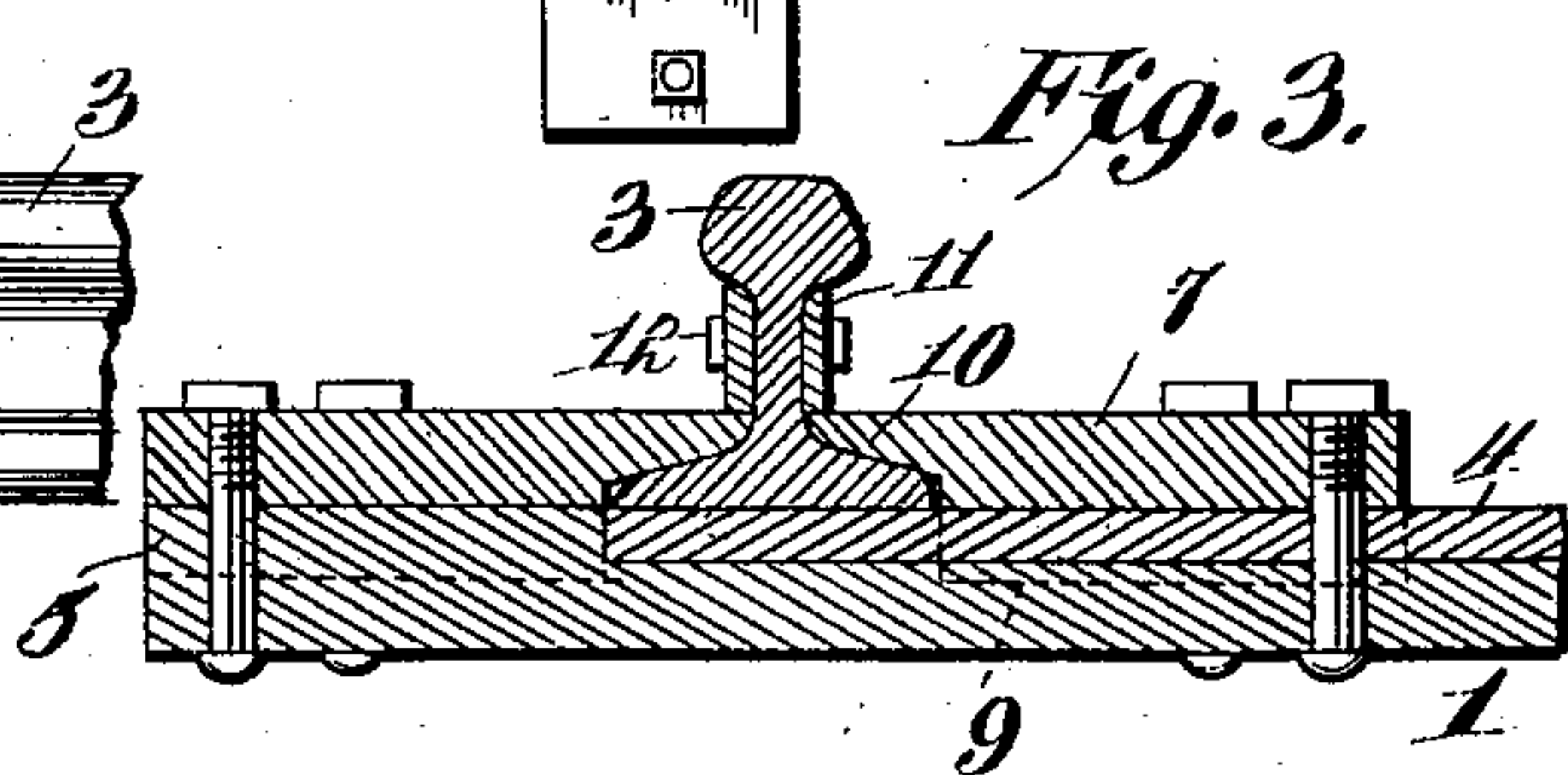
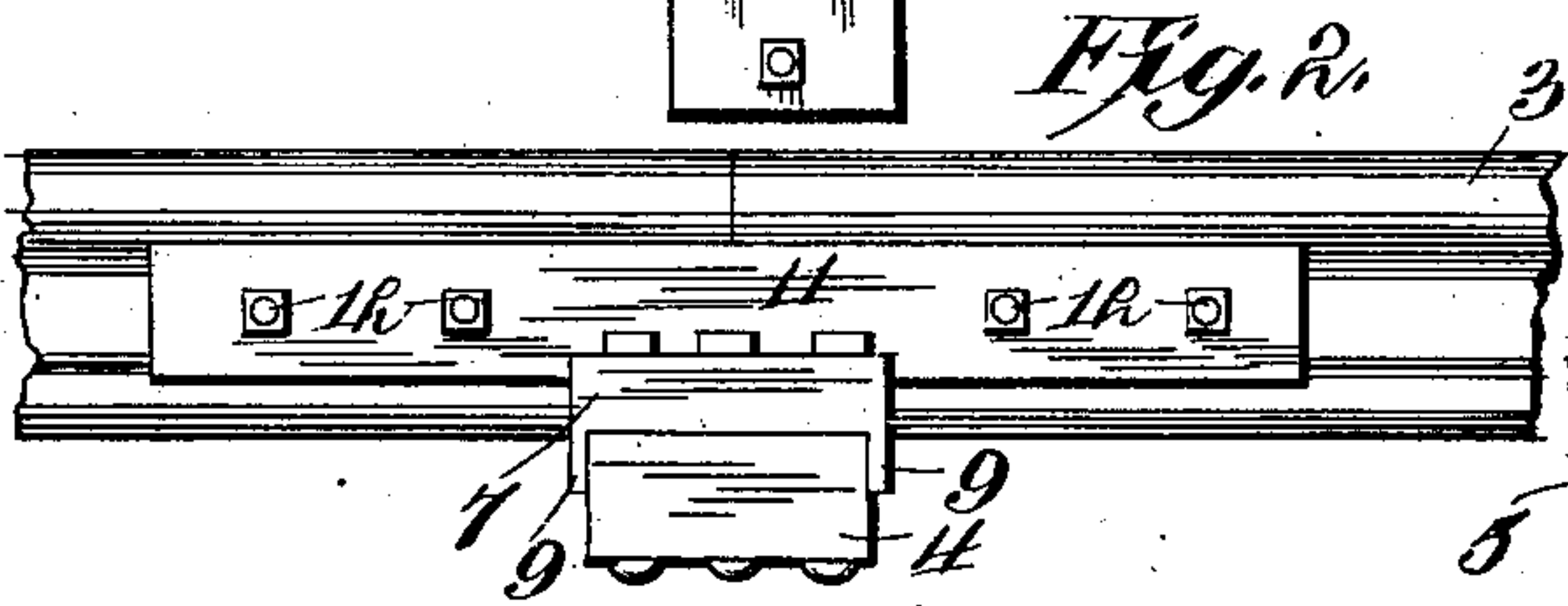
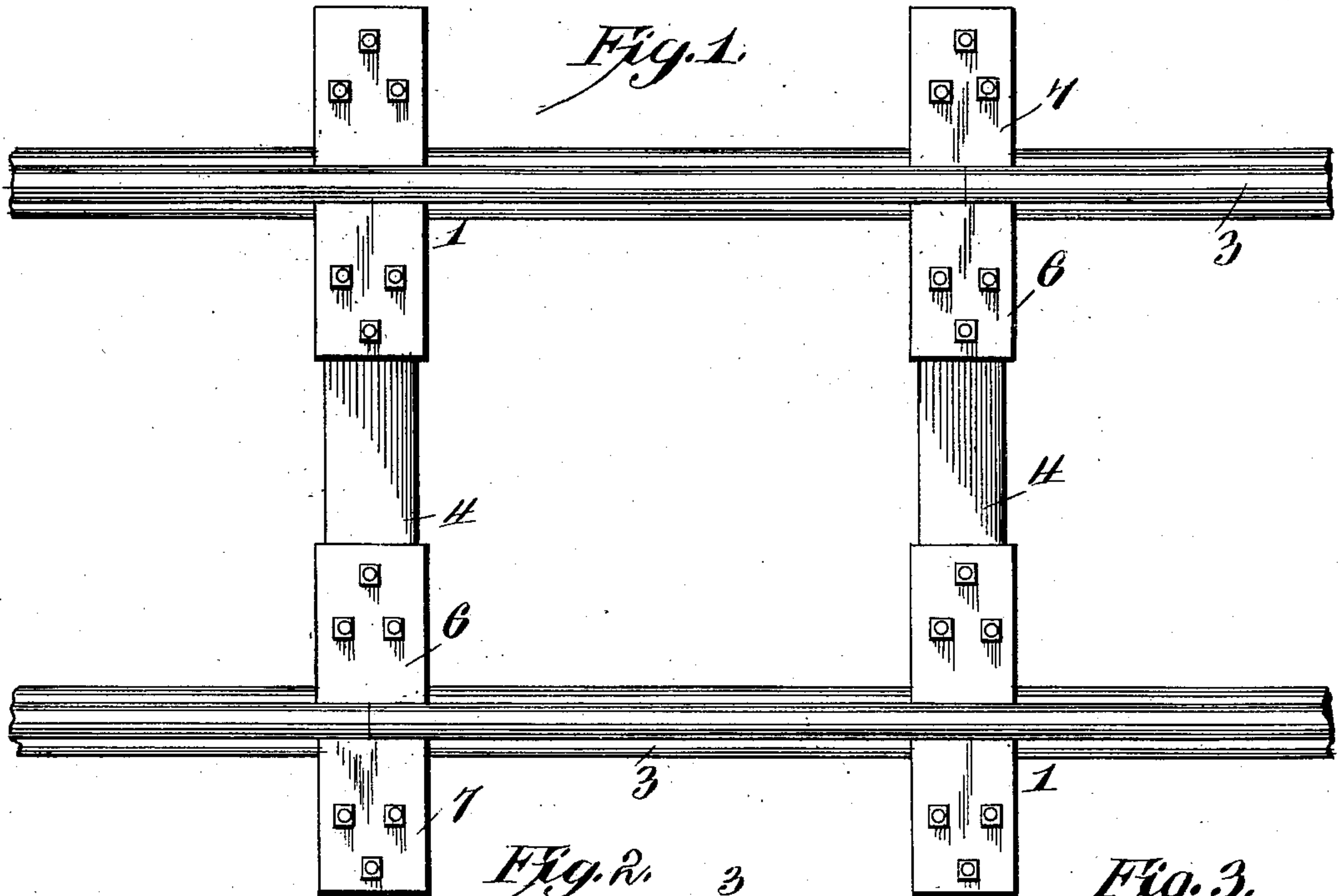
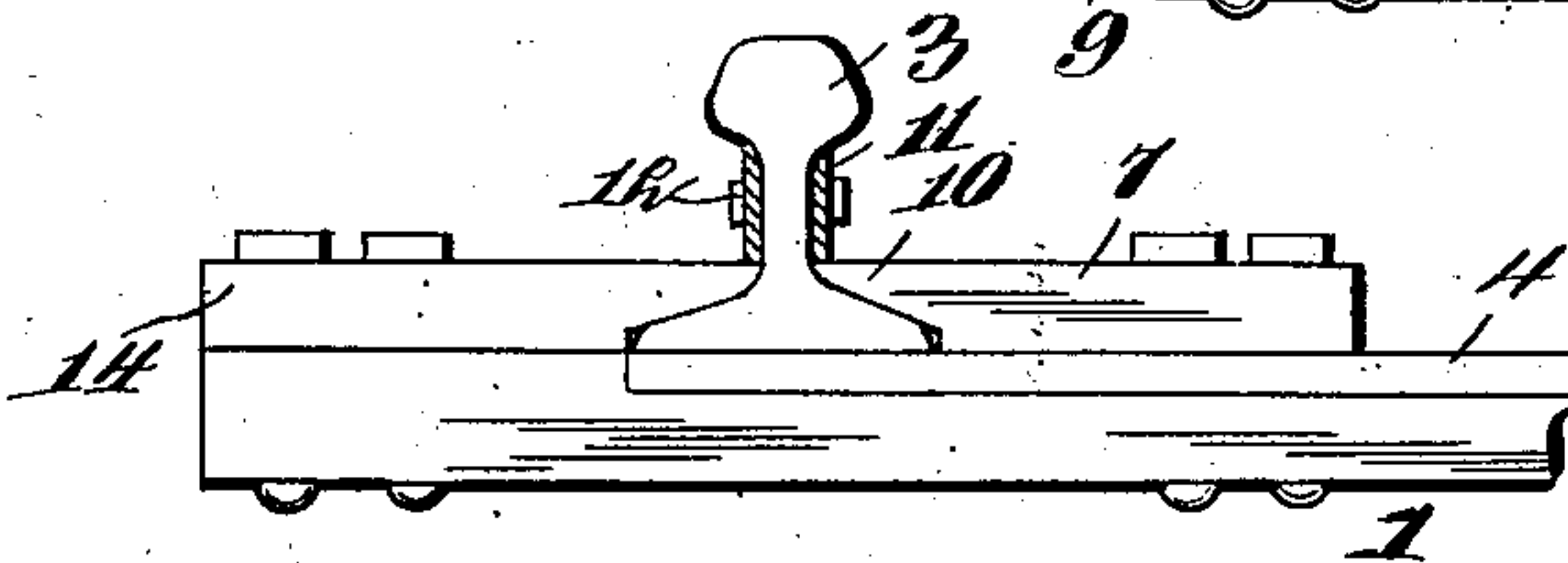
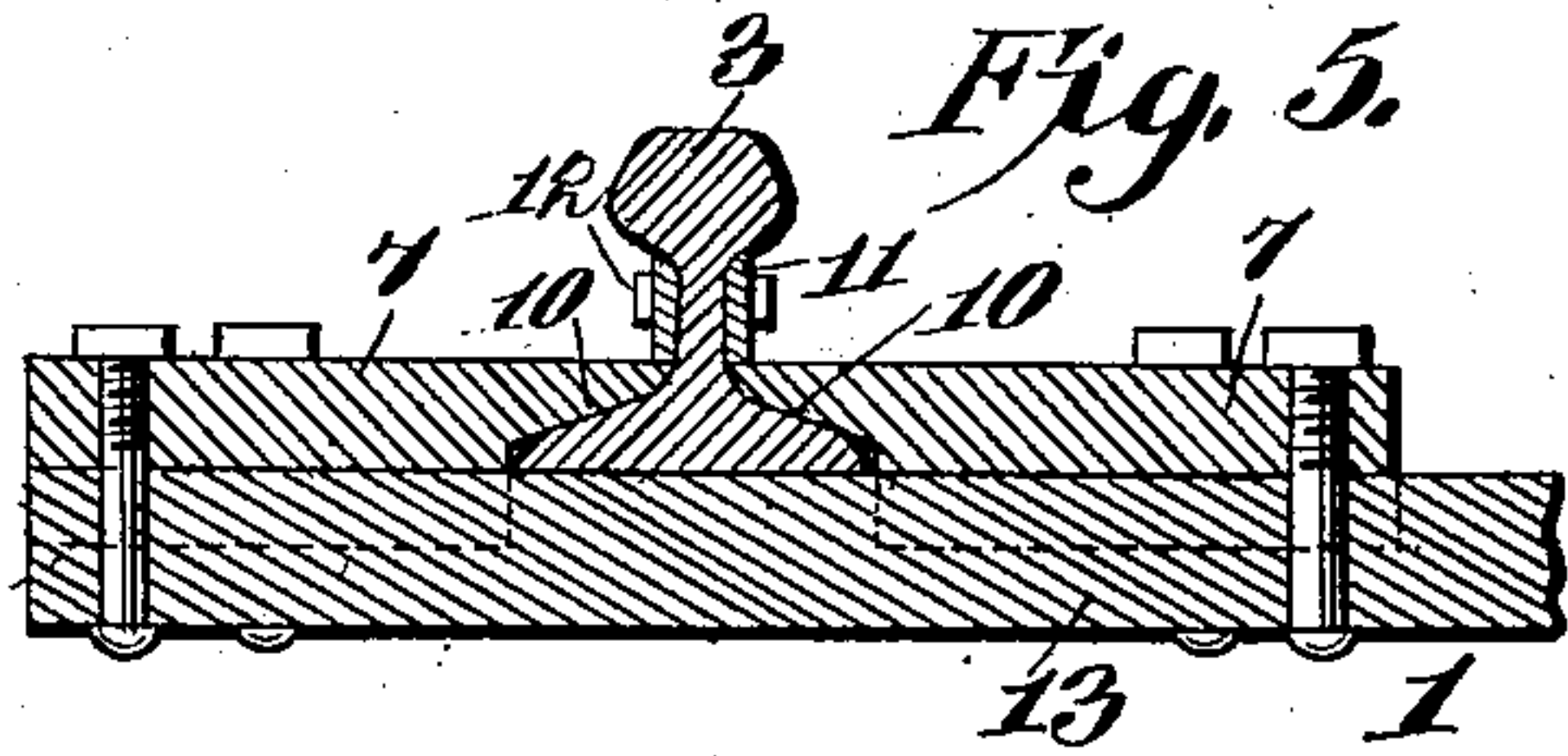


Fig. 6.



Thomas J. Kitto,
Inventor

Witnesses

Louis C. Starker
J. F. Riley

By

E. J. Siggers

Attorney

UNITED STATES PATENT OFFICE.

THOMAS J. KITTO, OF JOPLIN, MISSOURI.

RAILWAY CROSS-TIE.

SPECIFICATION forming part of Letters Patent No. 754,458, dated March 15, 1904.

Application filed October 29, 1903. Serial No. 179,109. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. KITTO, a citizen of the United States, residing at Joplin, in the county of Jasper and State of Missouri, have invented a new and useful Railway Cross-Tie, of which the following is a specification.

The invention relates to improvements in metallic cross-ties.

The object of the present invention is to improve the construction of metallic cross-ties and to provide a simple and comparatively inexpensive one of great strength and durability adapted to be readily cushioned and capable of securely fastening and firmly holding the rails in position.

A further object of the invention is to provide a metallic cross-tie adapted to be cushioned by a wooden plank or board and to arrange the rail-clamping devices so that the same will also operate to secure the cushioning plank or board in position.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a plan view of a portion of a track provided with cross-ties constructed in accordance with this invention. Fig. 2 is a side elevation of the same, showing one of the cross-ties. Fig. 3 is a longitudinal sectional view of the tie. Fig. 4 is a detail perspective view of one of the rail-clamps. Fig. 5 is a sectional view similar to Fig. 3, the cushioning plank or board being omitted. Fig. 6 is a side elevation of a portion of a rail-tie, illustrating a slight modification of the invention, the side flanges of the rail-clamps being omitted.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a metallic cross-tie provided

at its upper face with a longitudinal recess extending substantially across the space between the rails 3, preferably from the outer side of one rail to the outer side of the other and adapted to receive a cushioning plank or board 4, upon which the rails are placed. The cross-tie is provided with upwardly-projecting end portions 5, which abut against the ends of the cushioning board or plank, as clearly illustrated in Fig. 3 of the drawings, and the ends of the cushioning plank or piece abut against the projecting portions 5. The cushioning plank or piece is preferably constructed of soft yieldable wood, and the rails are retained on the ends of it by means of clamps 6 and 7, arranged in pairs and located at the inner and outer sides of the rails and secured to the same by suitable fastening devices. The fastening devices, which may be of any desired number, preferably consist of bolts and have their nuts at the upper faces of the rail-clamps. The rail-clamps, which are in the form of caps, are provided with depending flanges 9, which extend downward below the upper face of the cross-tie and engage the side edges thereof, and the inner clamps, which fit on the cushioning plank or piece, project below the lower face of the same and engage the side faces of the cross-tie, whereby the cushioning-plank is firmly held against lateral movement on the cross-tie. The clamps are provided at their engaging ends with inclined engaging faces or jaws 10, which conform to the configuration of the bottom flanges of the rails and which fit against the webs of the same, as clearly shown in Fig. 3. By this construction and arrangement the rails are firmly clamped in position, and they are securely held on the cushioning plank or piece of the cross-tie.

The rails are connected by fish-plates 11, located at opposite sides of the webs of the rails and recessed at their lower edges to receive the clamps. The fish-plates are secured to the rails by bolts 11, which pierce the webs of the rails and the fish-plates in the usual manner.

The cross-tie 13 (shown in Fig. 5 of the drawings) receives the rail, which is not cushioned by a plank or piece, as illustrated in

Figs. 1 and 3, and said cross-tie is of the same thickness throughout its entire length.

In Fig. 6 of the drawings is illustrated a second modification, the depending flanges being omitted from the rail-clamps 14. The rail-clamps having the depending side flanges 9 and which form caps for the cross-ties may be advantageously employed on wooden cross-ties.

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

1. The combination with a rail, of a cross-tie constructed of metal and provided at its upper face with a longitudinal recess, and a cushioning-piece interposed between the cross-tie and the rail and secured to the cross-tie by the fastening means for retaining the rails in place, substantially as described.

20 2. The combination with rails, of a cross-tie provided at its upper face with a longitudinal recess extending from one rail to the other, and a cushioning plank or piece fitted in the recess and interposed between the cross-tie and the rails, substantially as described.

25 3. The combination with rails, of a cross-tie provided with a longitudinal recess and having projecting end portions located beyond the rails, and a cushioning plank or piece arranged within the recess and fitted against the projecting portions of the cross-tie and interposed between the latter and the rails, substantially as described.

30 4. The combination with a rail, of a cross-tie

receiving the rail, and a rail-clamp consisting of a cap fitted on the cross-tie and provided at one end with an outwardly-extending rail-engaging portion engaging one of the bottom flanges of the rail, said clamp being provided at opposite sides of the cross-tie with depending flanges, substantially as described.

5. The combination of a cross-tie, a cushioning plank or piece arranged on the upper face of the cross-tie in position to receive a rail, and a rail-clamp consisting of a cap fitted on the cushioning plank or piece and provided with depending side flanges embracing the cross-tie and retaining the plank or piece in position, substantially as described.

6. The combination of a cross-tie provided at its upper face with a longitudinal recess, a cushioning plank or piece fitted in the recess and arranged to receive the rails, rail-engaging clamps consisting of clamps fitted on the cross-tie and provided with depending side flanges and retaining the cushioning plank or piece in position, and fastening devices connecting the clamps and the cross-tie and piercing the cushioning plank or piece, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS J. KITTO.

Witnesses:

GEO. J. GRAYSTON,
E. C. LEE.