W. C. NEEL.

RAILWAY TIE AND RAIL CLAMP.

APPLICATION FILED NOV. 24, 1908.

932,890.

Patented Aug. 31, 1909.

2 SHEETS—SHEET 1.

Fig. 1

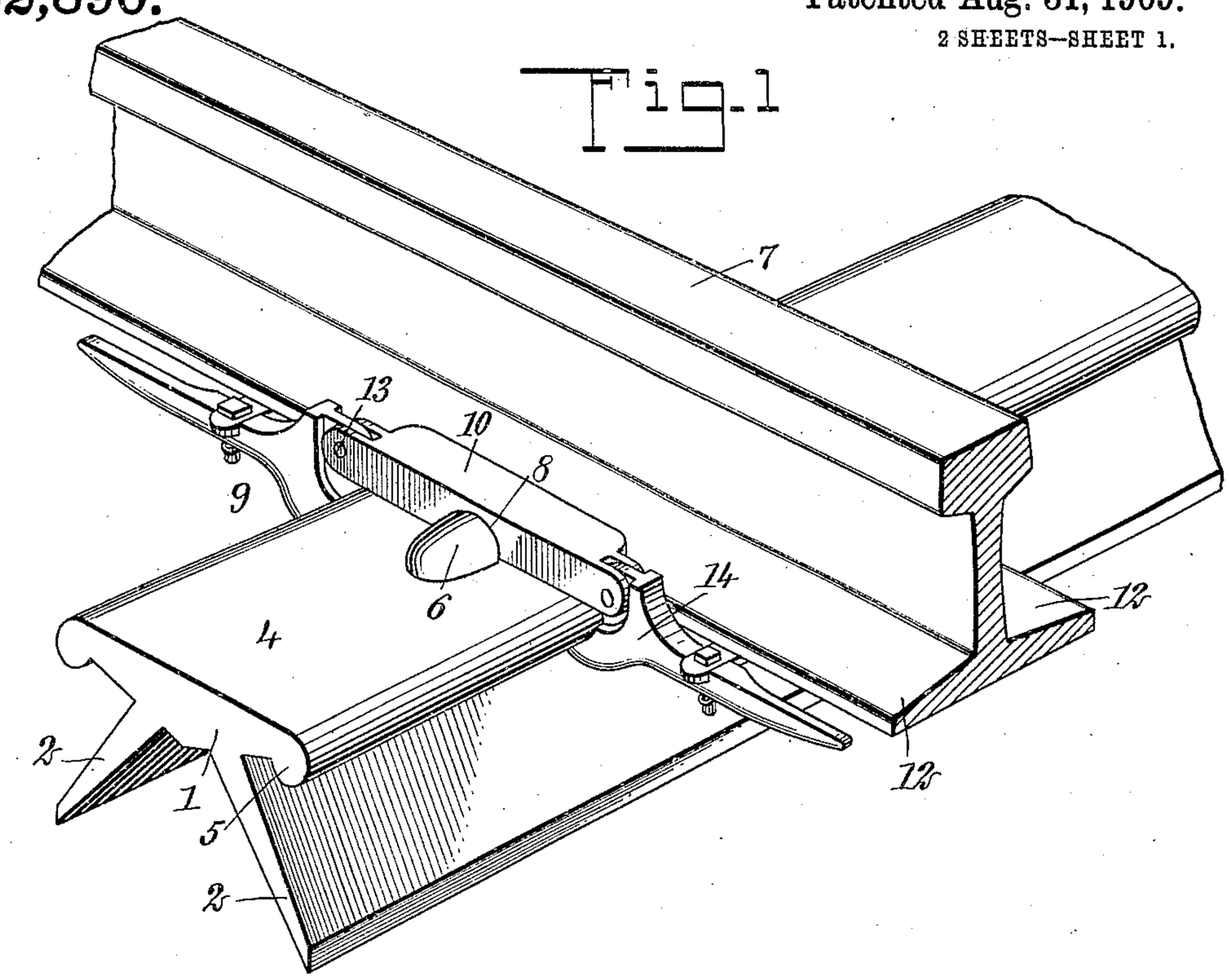
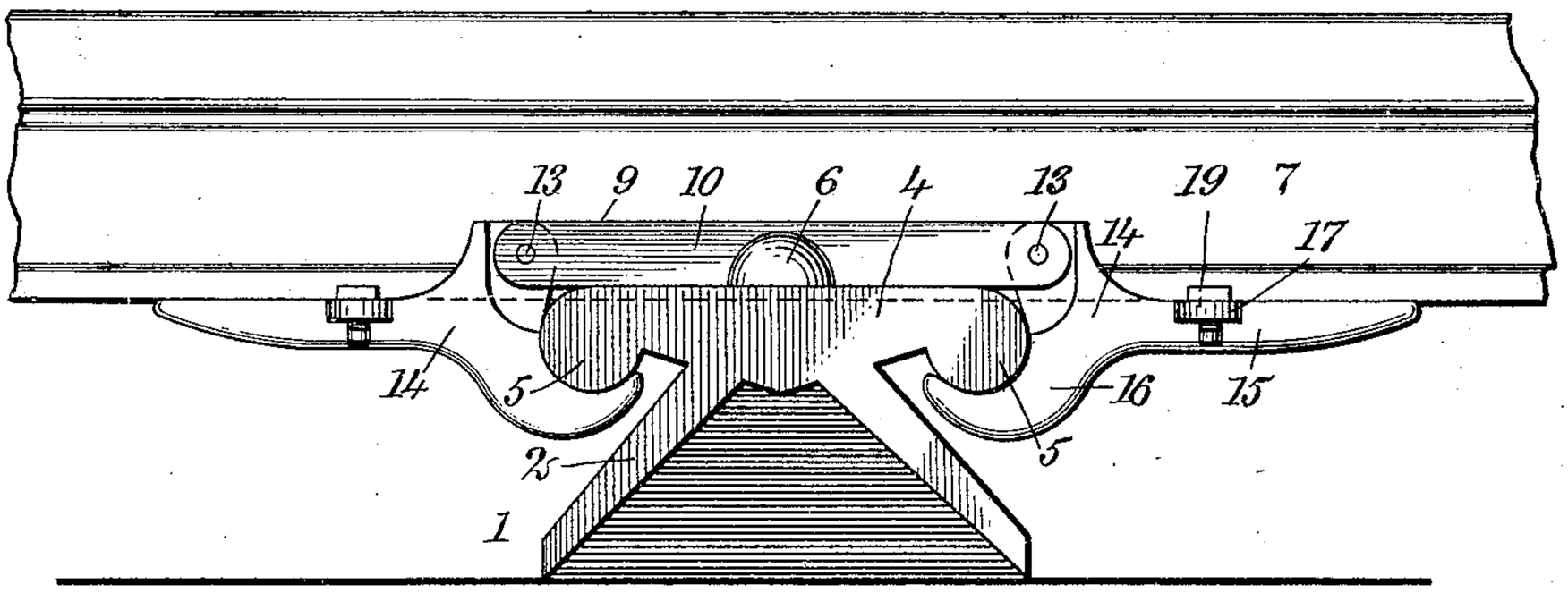



Fig. 2




WITNESSES

J. A. Brophy

F. D. Stanton

INVENTOR

Walter C. Neel

BY Munn & Co.

ATTORNEYS

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

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Fig. 3

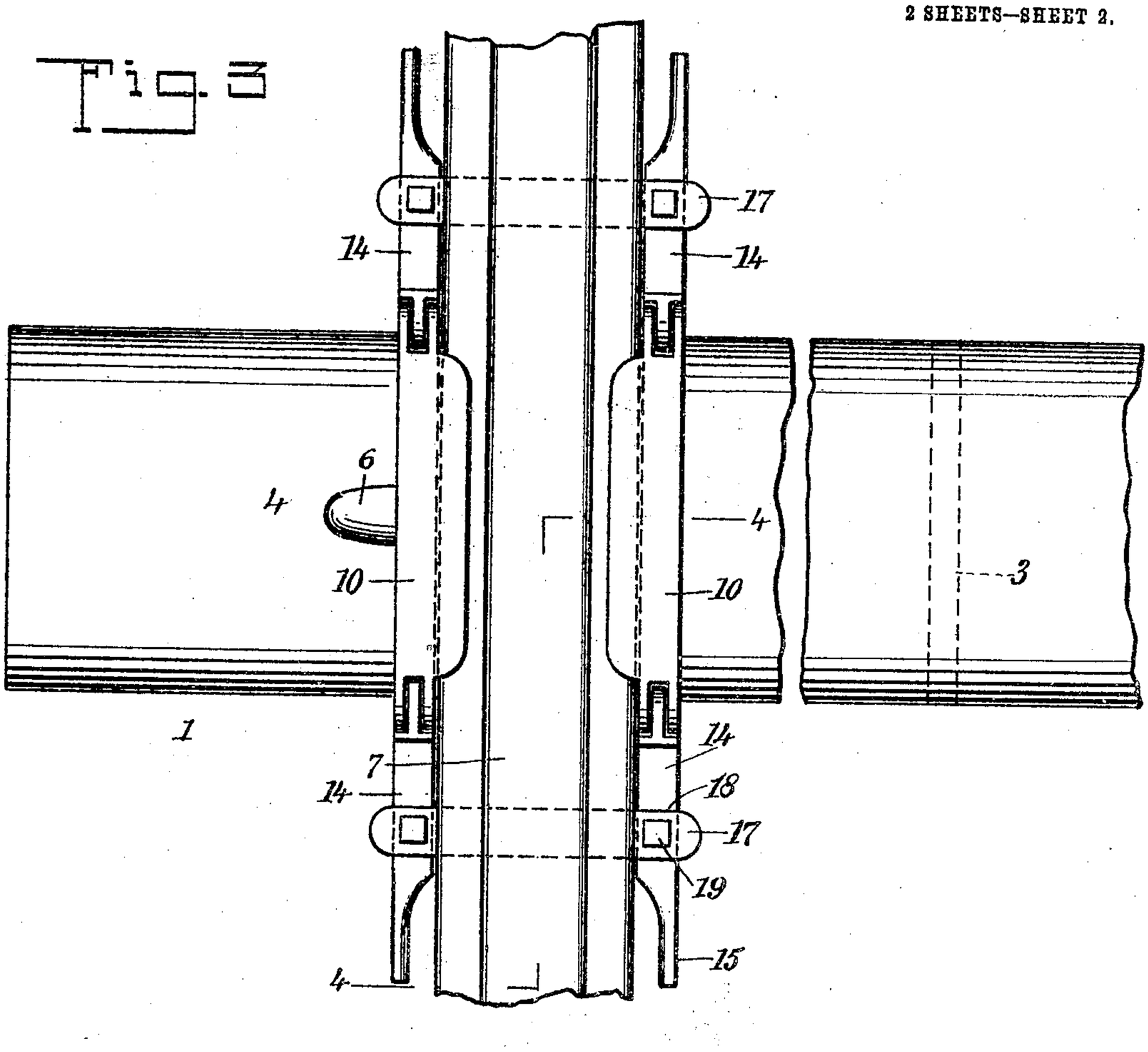
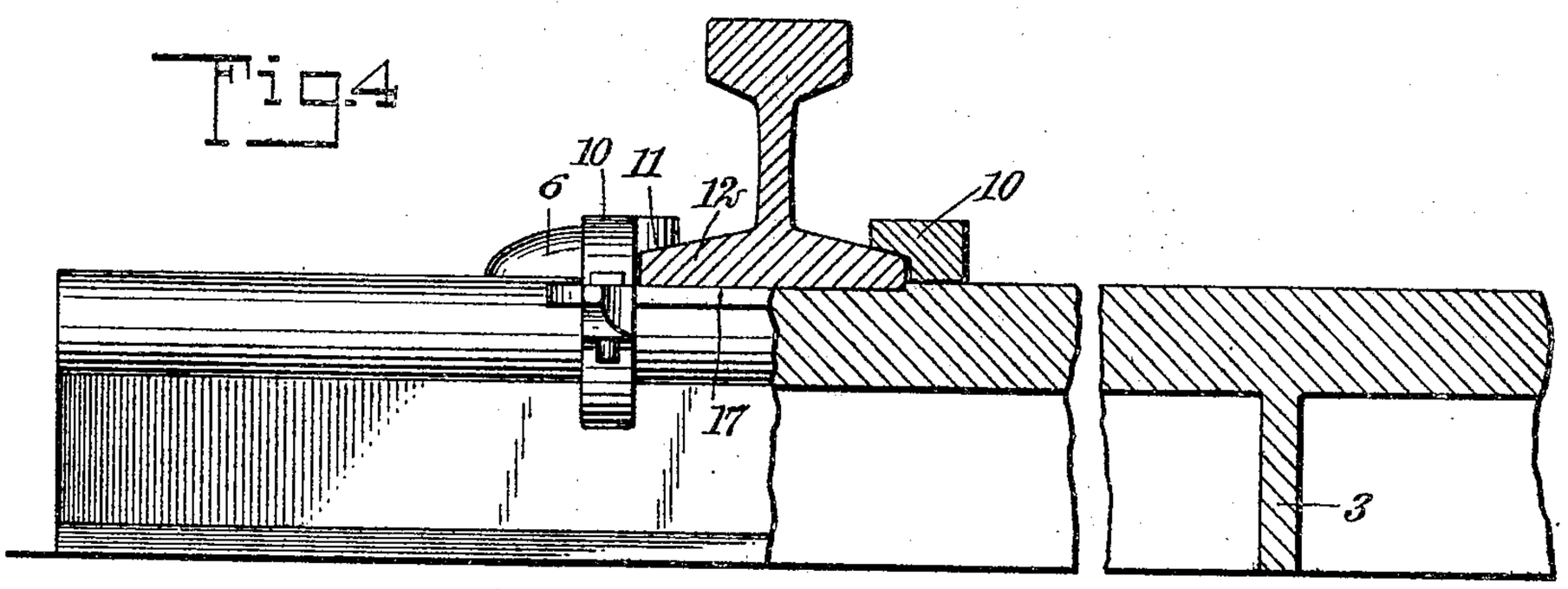



Fig. 4




WITNESSES

J. A. Brophy

F. D. Emerson

INVENTOR

Walter C. Neel

BY Munn & Co.

ATTORNEYS

# UNITED STATES PATENT OFFICE.

WALTER C. NEEL, OF LAKIN, KANSAS, ASSIGNOR OF ONE-HALF TO MELVIN A. MOSHER, OF LAKIN, KANSAS.

## RAILWAY-TIE AND RAIL-CLAMP.

932,890. Specification of Letters Patent. Patented Aug. 31, 1909.

Application filed November 24, 1908. Serial No. 464,263.

*To all whom it may concern:*

Be it known that I, WALTER C. NEEL, a citizen of the United States, and a resident of Lakin, in the county of Kearny and State of Kansas, have invented a new and Improved Railway-Tie and Rail-Clamp, of which the following is a full, clear, and exact description.

The invention relates to railway ties and rail clamps, and the object of the invention is to produce a tie having an improved form, and particularly adapted to be constructed of metal.

A further object of the invention is to provide a clamp to be used in connection with such a metal tie, which will operate effectively to hold the rail in position, without the use of spikes or similar fastening devices.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective showing the end of a tie constructed according to my invention, showing also a portion of a rail laid upon the tie, together with my improved clamp; Fig. 2 is an end view of the tie, showing the clamp in side elevation, together with a short portion of the rail; Fig. 3 is a plan of the parts shown in Fig. 1, a portion of the tie being broken away; and Fig. 4 is a partial section taken on the line 4—4 of Fig. 3, and showing a portion of the tie in elevation.

Referring more particularly to the parts, 1 represents the tie, which is preferably of the form shown. This tie has two fins or flanges 2 which diverge in a downward direction from the upper portion of the tie, and these fins or flanges are connected at intermediate points throughout the length of the tie by transverse webs 3, as indicated in Fig. 3. At their upper portions these flanges 2 unite integrally with a slab or face plate 4, and the edges of this face plate project beyond the body of the tie, overhanging the upper portion thereof, as shown. These overhanging parts are formed into rounded beads or rolls 5, which extend continuously from one end of the tie to the other. The upper side of the slab or face plate 4 is provided with lugs 6 which are disposed on the end of the tie beyond the rail 7, as indicated in Fig. 3. These lugs present vertical faces or shoulders 8 which are disposed toward the rail, as indicated in Fig. 1.

On each side of the rail, one of my clamping devices 9 is provided. Each clamping device comprises a clamping bar 10 which extends longitudinally of the rail. On its face which is adjacent to the rail, the clamping bar 10 is undercut so as to form a recess 11, as indicated in Fig. 4, which receives the edge of the rail flange 12, as shown in Fig. 4. At the ends of the clamping bars 10, knuckle joints are provided having pivot pins 13, and these pins connect the bars with clamping levers 14. The form of these levers is most clearly illustrated in Fig. 2. Each lever has a handle 15 which extends longitudinally of the rail, and the end of the lever adjacent to the tie is formed into a downwardly extending hook or jaw 16. These jaws are rounded, and are adapted to engage the beads or rolls 5, as shown. On the side of the rail, toward the end of the tie, the clamping bars 10 seat against the faces 8 of the lugs 6. On the inner side of the rail no lug is provided in the tie.

The gage of the railway is determined by the position of the lugs 6. The clamping devices 9 are adapted to be applied in the manner indicated in Fig. 3, one on the inner edge and one on the outer edge of the flange of the rail. When the handles of the levers 14 have been forced downwardly so as to cause the bars 10 to clamp the tie firmly, they are held in this depressed position by keepers or keeper bars 17 which are inserted under the rail flange in a transverse position, as shown in Fig. 3. The upper sides of the levers 14 are formed with notches 18 which receive these keeper bars, and the keeper bars are attached in position by screw bolts 19 which pass into the clamping levers, as shown.

The tie 1 is preferably formed of cast iron, or similar material. The clamps or clamping bars 10 are preferably formed of spring steel, so that they will give slightly as the rails expand or contract under changes of temperature.

With a tie constructed as described, and

with a clamping device constructed and applied as indicated, the rails may be very securely held on the ties.

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

1. A railway tie formed of metal, having a body consisting of flanges diverging in a downward direction, extending longitudinally of the rail, and laterally projecting flanges overhanging said body at the sides, and presenting longitudinally extending beads.

2. A rail clamping device comprising, in combination, bars extending transversely of the tie engaging the rail, movable members attached to said bars and engaging the tie, and keeper bars extending transversely of the rail engaging the under side of the rail and engaging said movable members to hold the same in engagement with the tie.

3. A rail clamping device consisting of a bar adapted to be laid transversely of the tie and adapted to engage the rail, clamping levers pivotally attached to the ends of said clamping bar and adapted to engage the edges of the ties when in a depressed position, and means for holding said levers in a depressed position.

4. A tie having an overhanging bead near the upper edge thereof, in combination with a clamping device having a transverse bar lying upon the tie and adapted to engage the rail, clamping levers pivotally attached to said bar and having jaws engaging said overhanging edges respectively and means for locking said clamping levers.

5. A tie having overhanging edges at the sides thereof, in combination with a clamping device having a clamping bar extending longitudinally of the rail and transversely of the tie, clamping levers pivotally attached to said clamping bar and having jaws engaging said overhanging edges, and bars extending transversely under the rail and holding said clamping levers in their locked position.

6. A railway tie having a lug on the upper face thereof, in combination with a clamping device having a transverse bar backing against said lug, clamping members attached to said clamping bar and engaging the side of said tie, and means for holding said clamping members in their locked position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER C. NEEL.

Witnesses:
OTTO WAECHTER,
J. M. WHINERY.