No. 721,555. PATENTED FEB. 24, 1903.

C. F. FISHER.

METALLIC RAILWAY TIE.

APPLICATION FILED SEPT. 6, 1902.

NO MODEL.

Fig. 1.

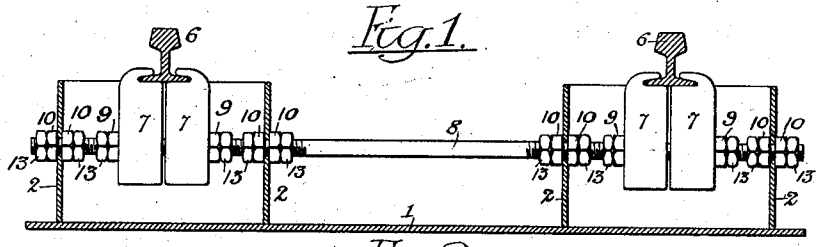
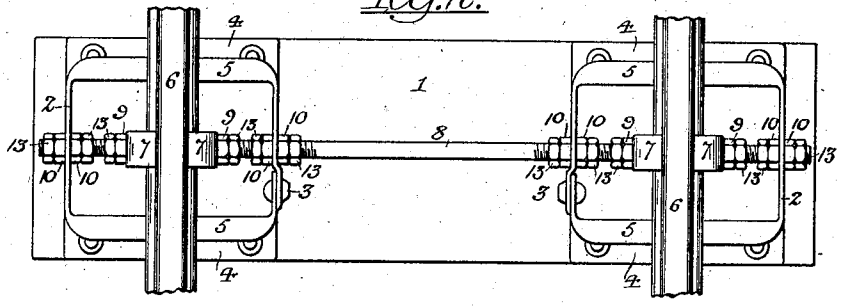


Fig. 2.



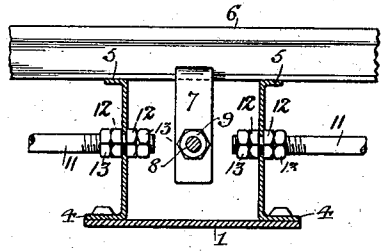


Fig. 3.

Fig. 4.

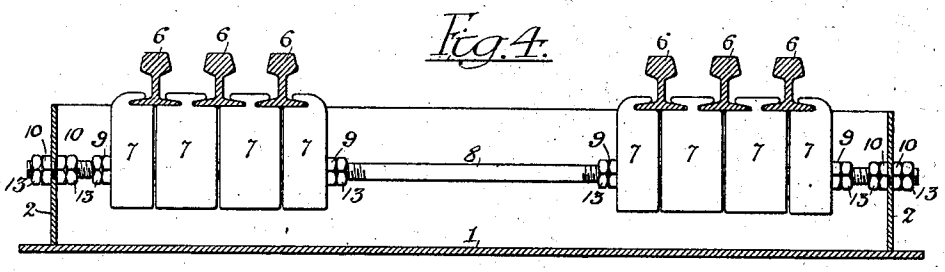
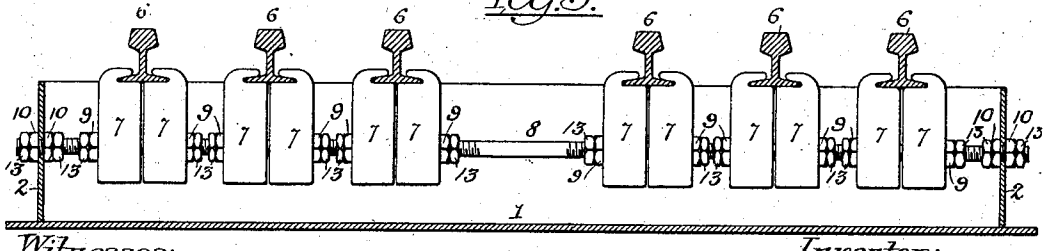


Fig. 5.



Witnesses:—

Frank L. A. Graham.

Chas. N. Lee.

Inventor:—

Christian Frederick Fisher,

by his Attorneys;

Howson & Howson

UNITED STATES PATENT OFFICE.

CHRISTIAN FREDERICK FISHER, OF PHILADELPHIA, PENNSYLVANIA.

METALLIC RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 721,555, dated February 24, 1903.

Application filed September 6, 1902. Serial No. 122,328. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN FREDERICK FISHER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Metallic Railway-Ties, of which the following is a specification.

The object of my invention is to so construct a metallic cross-tie and rail-support as to provide a firm support for the rails, to securely clamp the same to the tie, and to permit of ready adjustment of the rails from and toward each other in gaging the track.

In the accompanying drawings, Figure 1 is a longitudinal section of a metallic cross-tie or rail-support and rail-securing device constructed in accordance with my invention. Fig. 2 is a top or plan view of the same. Fig. 3 is a transverse section of one of the ties with part of one of the rails thereon and parts of certain longitudinal tie-connecting rods. Fig. 4 is a longitudinal section of the device constructed for supporting and securing groups of rails instead of single rails; and Fig. 5 is a view similar to Fig. 4, but illustrating another method of supporting and securing the rails when the latter are disposed in groups.

Referring first to Figs. 1, 2, and 3, 1 represents the base-plate of the cross-tie or rail-support, composed of a flat piece of wrought iron or steel, to which are secured, one near each end, the tie-boxes 2, each of which is preferably composed of a strip of sheet or wrought iron or steel bent into box form and having its overlapping ends riveted together, as illustrated at 3 in Fig. 2. Each box 2 has at the base fore-and-aft flanges 4, which are bolted or riveted to the base-plate 1 of the tie, and each box also has at the top fore-and-aft flanges 5, which serve as seats or supports for the rails 6, which are firmly confined to said seats by means of clamp-blocks 7, hooked at their upper ends, so as to engage the base-flange of the rail, these blocks being perforated in their lower portions for the passage of a rod 8, which extends across each of the boxes 2 and from one box to the other, as shown in Figs. 1 and 2. The means for clamping the rails is such as to permit endwise movement of the same.

The rod 8 is threaded for the reception of nuts 9, which bear upon the blocks 7 and force them together, so as to cause them to take a firm hold upon the base-flange of the rail, the threaded portion of the rod also receiving other nuts 10, whereby it is confined to the inner and outer sides of the box 2. By this means the rod serves not only as a brace for the rail-supporting boxes, but also as a means of effecting the clamping of the block 7 upon the base of the rail and the lateral adjustment of the clamping-blocks of one rail in respect to those of the other rail, so as to move said rails from or toward each other in properly adjusting the gage of the track.

When, as in the case of switches, frogs, crossings, and the like, rails are grouped closely together, the clamp-blocks may be likewise grouped, as shown in Fig. 4, and confined between a single pair of nuts 9 on the rod 8, a single box 2 in such case being by preference employed instead of a pair of separated boxes, or where the rails are not so closely grouped a pair of clamping-blocks 7 and confining-nuts 9 may be employed in connection with each rail, if desired, as shown, for instance, in Fig. 5.

The boxes 2 of each tie are connected to the boxes of the ties in front and rear of the same by means of longitudinal tie-rods 11, confined to the front and rear sides of the box by means of nuts 12, as shown in Fig. 3.

The rods 8 between the boxes 2, as well as the rods 11, are provided with jam-nuts 13, bearing against and serving to lock the securing-nuts 9, 10, and 12.

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

1. A metallic railway-tie consisting of a base-plate and one or more rail-supporting boxes separate from said base-plate and having at the upper edge flanges forming seats for the rails, substantially as specified.

2. A metallic rail-tie consisting of a transverse base and tie-plate and one or more rail-supporting boxes having upper edge flanges forming seats for the rails, and lower flanges secured to the base-plate, substantially as specified.

3. A metallic railway-tie consisting of a base-plate and one or more rail-supporting boxes consisting of a metallic plate bent into

box form and having its overlapping edges secured together, said box being provided with base-flanges secured to the base-plate, substantially as specified.

4. A metallic railway-tie consisting of a base-plate and one or more rail-supporting boxes consisting of a metallic plate bent into box form and having its overlapping edges secured together, said box being provided with base-flanges secured to the base-plate, and top flanges serving as seats for the rail, substantially as specified.

5. The combination of a metallic tie having rail-supporting boxes, rails resting thereon, and transverse brace-rods connecting and crossing said boxes and having thereon clamping-blocks for the rails, nuts for adjusting said clamping-blocks and other nuts for securing the transverse brace-rods to the boxes, substantially as specified.

6. The combination of a metallic tie having rail-supporting boxes, rails resting thereon, and transverse brace-rods connecting and crossing said boxes and having thereon clamping-blocks for the rails, nuts for adjusting said clamping-blocks, other nuts for securing the transverse brace-rods to the boxes and jam-nuts for locking said adjusting and securing nuts, substantially as specified.

7. The combination of a metallic tie having rail-supporting boxes, rails resting thereon, and transverse brace-rods secured to and crossing said boxes and having thereon clamping-blocks for the rails, nuts for adjusting said clamping-blocks, and longitudinal tie-rods for the boxes having suitable securing means, substantially as specified.

8. The combination of a metallic tie having rail-supporting boxes, rails resting thereon, and transverse brace-rods secured to and crossing said boxes and having thereon clamping-blocks for the rails, nuts for adjusting said clamping-blocks, longitudinal tie-rods for the boxes having securing-nuts, and jam-nuts for locking said securing-nuts, substantially as specified.

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

CHRISTIAN FREDERICK FISHER.

Witnesses:
CHARLES MAIER,
FRANK C. DOUGHERTY.