

W. D. CARPENTER & J. A. HUMPHREY.

RAILROAD TIE.

APPLICATION FILED JAN. 18, 1909.

934,040.

Patented Sept. 14, 1909.

Fig. 2.

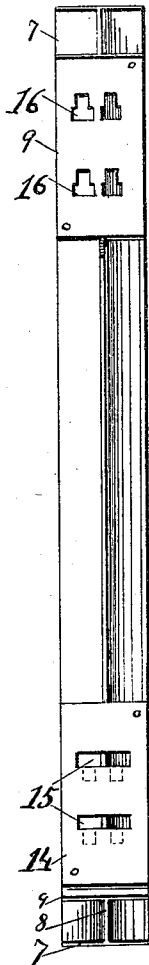


Fig. 1.

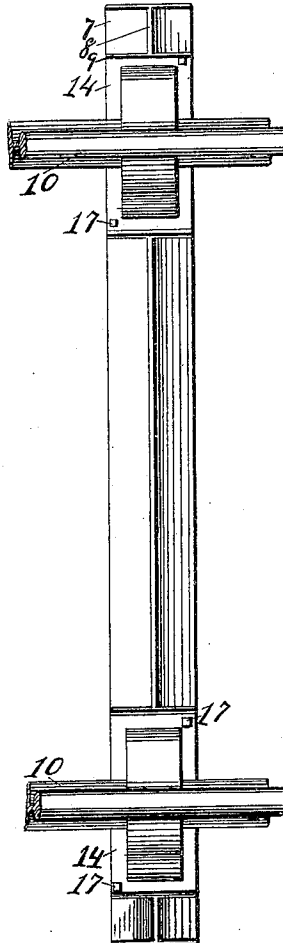


Fig. 3.

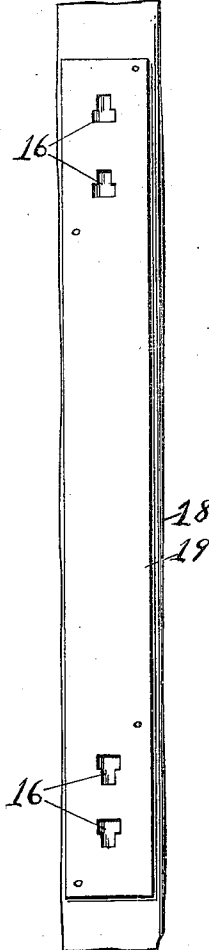


Fig. 4.

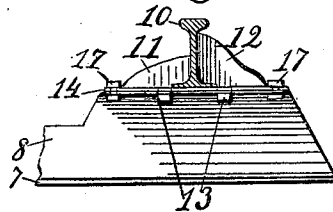
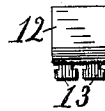


Fig. 5.



Witnesses

N. S. Waller.
E. Gray.

Inventors

William D. Carpenter.
James A. Humphrey.
by W. L. Shewee. Attorney

UNITED STATES PATENT OFFICE.

WILLIAM D. CARPENTER AND JAMES A. HUMPHREY, OF LIMA, OHIO.

RAILROAD-TIE.

934,040.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed January 18, 1909. Serial No. 472,992.

To all whom it may concern:

Be it known that we, WILLIAM D. CARPENTER and JAMES A. HUMPHREY, citizens of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification.

This invention relates to railroad ties. Its object is to secure the rails rigidly and permanently at the required distance apart, and to do this by mechanical means, without the aid of a gage or measure between rails; and to secure the rail to the tie by mechanical means which will hold it securely in service and yet admit of being easily released when so desired.

To this end, our invention consists in the construction and combination of parts forming a railroad tie, hereinafter more fully described, and particularly set forth in the claims, reference being had to the accompanying drawings in which—

Figure 1 is a top view of a railroad tie made of metal according to our invention, as in service supporting portions of two rails. Fig. 2 is a top view of the same tie before the rails are laid. Fig. 3 is a top view of a modification of the same invention as adapted to a wooden tie. Fig. 4 is a side view of a portion of a metallic tie, also showing a rail in transverse vertical section. Fig. 5 is an inner face view of one jaw of the rail-clamping device.

Numerals 7 represents the base of the tie; 8 the web and 9 the head-plate made of metal like an I-beam. As a matter of economy in metal; and for convenience in ramming the dirt or ballast against this tie we make the ends with an inward slant of 30° to 45°, and the midway portion with the head 9, and part of the web 8, cut away as shown; leaving enough of the head at each end of the tie to serve as a base for the two rails 10. The two jaws 11 and 12 of the rail-clamping device, are provided, each with one or more T-headed bolts 13, made integral with their respective jaws. A lock-plate 14, has oblong holes 15, through it to permit the heads of the bolts 13, to pass through it. The head plate 9, of the tie has T-shaped holes 16, vertically through it; the head of the T-hole to admit the head of the bolt, and the body of the T-hole to admit the body of the bolt. The holes 15, in the lock-plate register with the holes 16, in the tie. To apply

this fastening the tie is first to be located in the ground; a lock-plate is then to be placed on the tie, a rail on the lock-plate, the clamp jaws against the rail and their bolts in the holes in the lock-plate. This plate may now be rapped a little one way or another until the bolts enter the holes in the tie. Then the plate and the rail on it are to be rapped outward from the center of the road until the bodies of the bolts are in the body portions of the T-holes, and the heads of the bolts are firmly wedged under the head plate 9, of the tie.

As the flanges of the car wheels are at the inner edge only, of the car wheel, there is never any strain to tip or to slide a rail inward; but on all curves the centrifugal force of the train has a great tendency to push the outer rail outward. Therefore I locate the holes in the head plates of the ties, with the bodies of the T-shapes outward, (Figs. 2 and 3) so that all the lateral strain on the clamp jaws tends to hold their bolts more tightly to the tie, rather than to push them loose. The lock-plate 14 holds the bolts from moving inward toward the open end of the bolt holes in the tie, and, as service produces no actual strain in that direction, there is nothing to be resisted in keeping the lock-plate in place but the mere effect of jarring. This keeping may be done by inserting one or more spikes or bolts 17, through the plate 14, and tie head 9.

When wooden ties 18, are used, the head 9, may be represented by a head plate 19, fastened upon the tie; a mortise being made in the top of each body 18, to freely receive the head of a bolt. As this head plate 19, would have no web 8, attached to its center, a single bolt may be found sufficient to attach each clamp jaw centrally to the head. When these ties are being made at the mill, the bolt holes may all be located and punched to a pattern, exactly the right distance apart to locate the rails without any future measuring; thus saving time in laying the rails, and doing accurate work by unskilled labor. And by loosening the plate 14, both clamp jaws are set free to be removed, and to be replaced with a new rail.

The spreading of rails causes many serious accidents which this construction would render almost impossible. By this plan, the rails may be rapidly and accurately laid in the first instance, and repairs may be expeditiously conducted.

This invention provides a reliable, durable and economical railroad tie, and is at the same time, a substitute for common rail chairs.

5 Having thus fully described our invention, what we believe to be new and desire to secure by Letters Patent is the following:

1. In railroad ties, an I-shaped beam having two groups of T-shaped holes vertically through its head; a lock-plate located on the tie over each group of holes and having oblong holes in it to register therewith; two clamp jaws fitted to rest against a rail and having T-headed bolts to pass through the lock-plate and the tie head; and means for securing the lock-plate from slipping.

2. In railroad ties, metallic head plates having groups of T-shaped holes in them;

lock-plates located upon the head plates and having oblong holes through them to register with the T-shaped holes thereof; two clamp jaws fitted to hold a rail and having T-headed bolts fixed as rigid portions of the said jaws, and projecting from the lower faces thereof to pass through the lock-plate and the head plate; and means for securing the lock-plate from slipping, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM D. CARPENTER.
JAMES A. HUMPHREY.

Witnesses:

FRANK C. POVENMIRE,
JOHN THOMAS.