(No Model.)

C. W. YOST.

RAILROAD TIE.

No. 370,226. Patented Sept. 20, 1887.

Fig. 1.

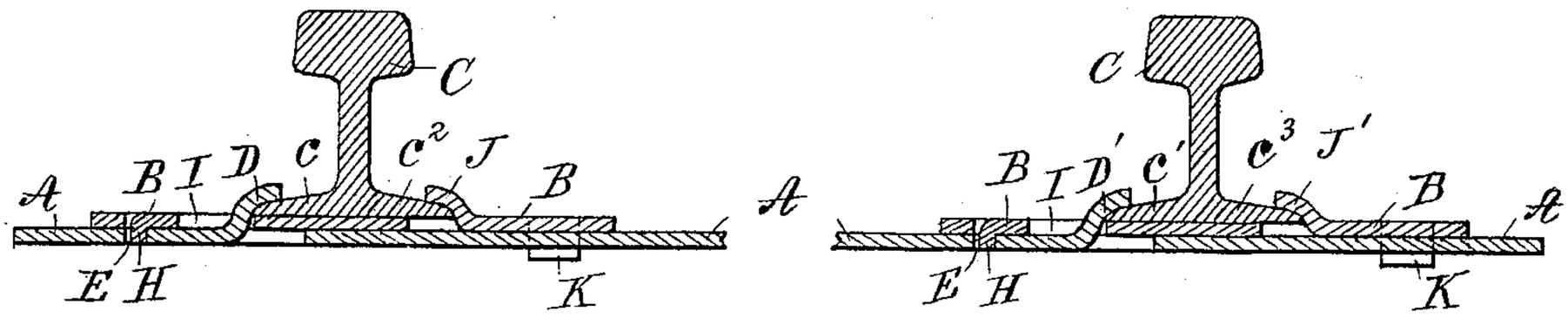


Fig. 2.

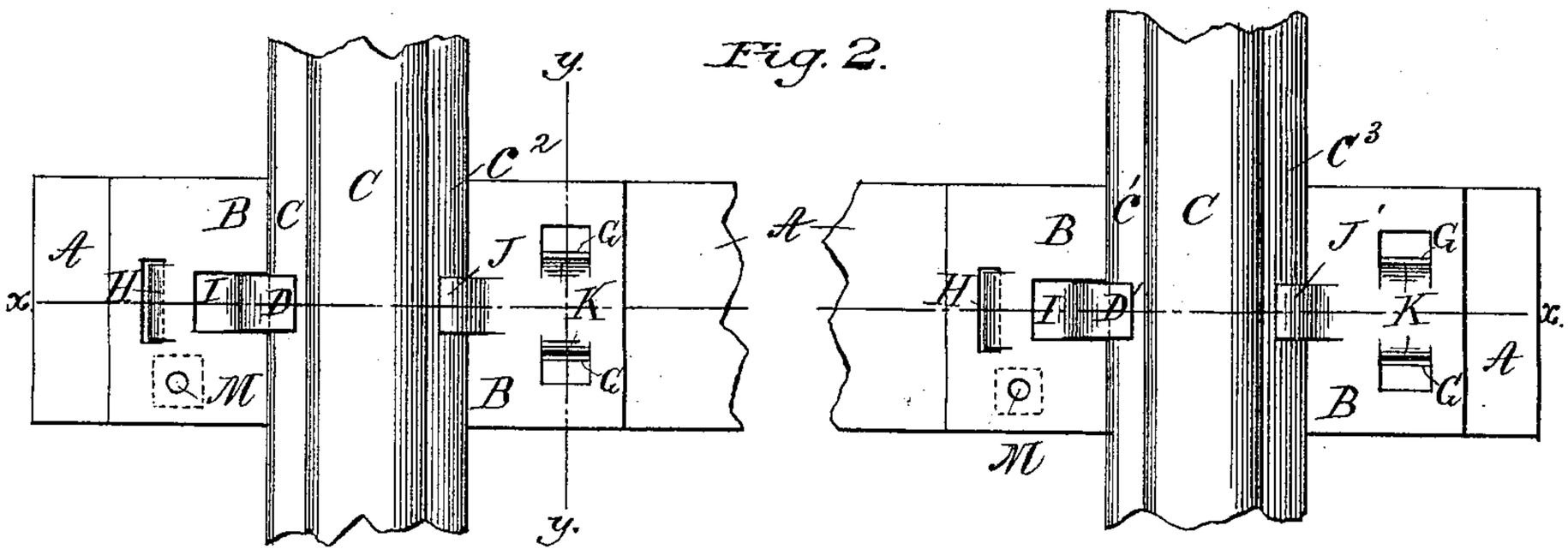


Fig. 3.

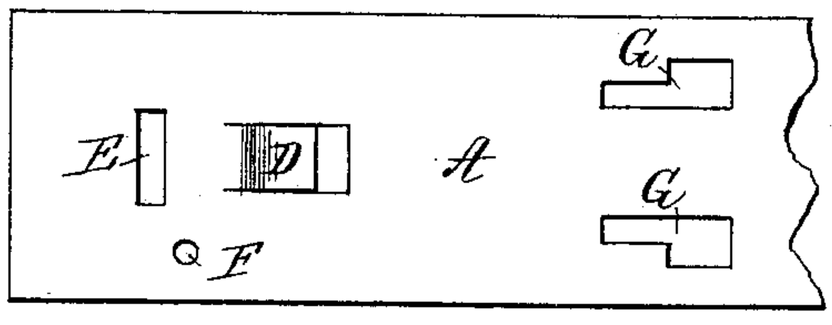
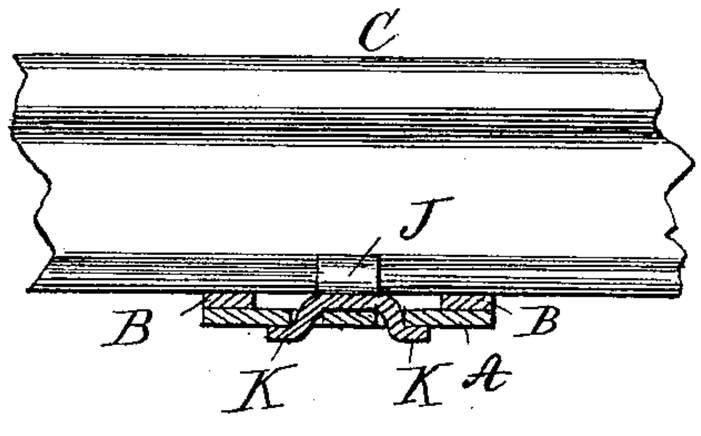


Fig. 4.



WITNESSES:

John A. Ellis.

C. Sedgwick

INVENTOR:

C. W. Yost

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES W. YOST, OF MIDDLETOWN, PENNSYLVANIA.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 370,226, dated September 20, 1887.

Application filed May 12, 1887. Serial No. 238,012. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WESLEY YOST, of Middletown, in the county of Dauphin and State of Pennsylvania, have invented a new and Improved Railroad-Tie, of which the following is a full, clear, and exact description.

My invention relates to railway-ties, and has for its object to provide an inexpensive, effective, and durable metallic railway-tie which will afford ample support to the track-rails, and may be easily and quickly laid with the rails to form a substantial road-bed for railways.

The invention consists in certain novel features of construction of the railway-ties and their combination with the rails, all as hereinafter described and claimed.

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

Figure 1 is a vertical sectional elevation longitudinally through my improved railroad-tie, which is broken away at its central part, and a transverse section of the track-rails which are held to the tie, the section being taken on the line *x x* of Fig. 2. Fig. 2 is a plan view of the tie and rails. Fig. 3 is a plan view of the end of the main plate or bar of the tie, which lies beneath the rail chair or shoe; and Fig. 4 is a side view with the tie in a transverse section on the line *y y*, Fig. 2.

The railroad-tie consists of a bed or base plate, A, of proper length to suit the gage of the railway-track, and two chairs or shoes, B B, one held near each end of the bed-plate A and adapted to lock the rails C C to the tie, as presently explained.

The metal of the bed-plate A is slit and pressed up to form two tongues, D D′, one near each end of the plate, the tongue D being adapted to lock against and over the outer base-flange, *c*, of the left-hand rail C, and the tongue D′ adapted for locking over the inner base-flange, *c′*, of the right-hand rail. Near these tongues D D′ the bed-plate is punched or pressed to form slots E, and preferably a pin or bolt hole, F, also, and at some distance from the tongues D D′ the bed-plate is punched out to form two pairs of L-shaped slots, G G, one pair at the end of the plate near the right-hand rail C and the other inside the left-hand rail C, and near the middle of the plate, as shown in Fig. 2 of the drawings.

The chairs or shoes B are each made of a metal plate of about the same thickness as the bed-plate A, and are slit and pressed to form pendent lips H, which are adapted to enter the bed-plate slots E, and the chairs, also, are formed with slots I, through which the bed-plate tongues D D′ pass to overlock the rail-flanges. The chairs B are also slit and punched or pressed to form tongues J J′, one tongue in each chair, and these tongues are adapted to lock, respectively, against and over the inside flange, c^2, of the left-hand rail and the outside flange, c^3, of the right-hand rail. The chairs are also slit and pressed to form a pair of pendent tongues, K K, which are adapted to lock into the slots G at each end of the bed-plate. Holes in the chairs allow bolts or pins M to be passed through the chairs into the holes F of the bed-plate.

In laying the ties and securing the rails of the track, the bed-plate A, with the chairs B B on it, will be slipped under the rails, and the rails will rest on the chairs when the latter are positioned to allow the rail-flanges to clear the tongues D D′ J J′ of the chairs, the chair-slots I allowing this adjustment of the chairs on the bed-plate, and when the chairs are pressed up snugly to the rails, by lifting or prying up the bed-plate, the bed-plate will be driven endwise toward the right hand, which will cause its tongues D D′ to engage the rail-flanges *c c′*, and also cause the chair-flanges J J′ to engage the rail-flanges c^2 c^3, and will also cause the chair-tongues K, which had been entered through the broad parts of the slots G, to enter the narrow parts of said slots and lock firmly beneath the bed-plate. At this time the tongues H of the chairs will stand nearly in line with the bed-plate slots E, and a few blows on the right-hand ends of the chairs opposite the tongues will bring the tongues to register with the slots E, into which they fall or spring by the elasticity of the chairs, and when the bolts or pins M are passed through the chairs and the bed-plate, and held either by nuts or cotter-pins, the attachment of the rails and ties will be complete. To remove the rails, it is only

necessary to remove the bolts M, when they are used, and wedge up the ends of the chairs until their tongues H are lifted from the bed-plate slots E, and a few blows of a hammer on the left-hand end of the bed-plate will loosen the entire tie from both rails, as will readily be understood.

It is not necessary that the bolt M be used with the lock of the chairs at H with the bed-plate slots I, or the bolts may be used without the lock H I; but the use of both the lock and bolt is at present preferred.

It is obvious that when these ties are used the rails cannot spread and cause derailment of the cars, and the chairs give strength to the tie and relieve the bed-plate of all direct wear of the rails, thus requiring renewal of the chairs only after long use of the track, and should the rails be broken by frost or otherwise the broken pieces will be held to place securely by the tongues, and thus prevent serious accidents.

Both the bed-plates and chairs may be finished complete by stamping or pressing them out when red-hot, just as they leave the plating-rollers, and whereby they may be produced very cheaply, and the fiber or grain of the metal will not be broken or weakened, as would be the case were the steel plates stamped or pressed out when cold.

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

1. A railroad-tie comprising a bed-plate, A, provided at each end with an upturned tongue, as D, and slots G, in combination with chair-plates B, formed with a slot, I, a tongue, as J, and pendent locking-tongues K, and a device locking the chairs to the bed-plate, substantially as described, for the purposes set forth.

2. A railroad-tie comprising a bed-plate, A, provided at each end with an upturned tongue, as D, and slots G and E, in combination with chair-plates formed with a slot, I, a tongue, as J, and pendent locking-tongues K, and a locking device for the chairs and bed-plate, comprising a tongue, H, on the chair entering the slot E of the bed-plate, substantially as described, for the purposes set forth.

3. A railroad-tie comprising a bed-plate, A, provided at each end with an upturned tongue, as D, slots G E, and hole F, in combination with chair-plates formed with a slot, I, a tongue, as J, pendent locking-tongues K, and a pendent lip, H, and a bolt or pin, M, entering the chair and bed-plate, substantially as described, for the purposes set forth.

4. The combination, with railroad-rails C C, of ties formed of a bed-plate, A, provided with upturned tongues D D′ and slots G, and chair-plates formed with slots I, and tongues J J′, and pendent locking-tongues K, and a locking device holding the chairs to the bed-plate, said tongues D D′ J J′ engaging the base-flanges of the rails, substantially as described, for the purposes set forth.

CHARLES W. YOST.

Witnesses:
THOS. M. YOST,
JOS. FOIN.