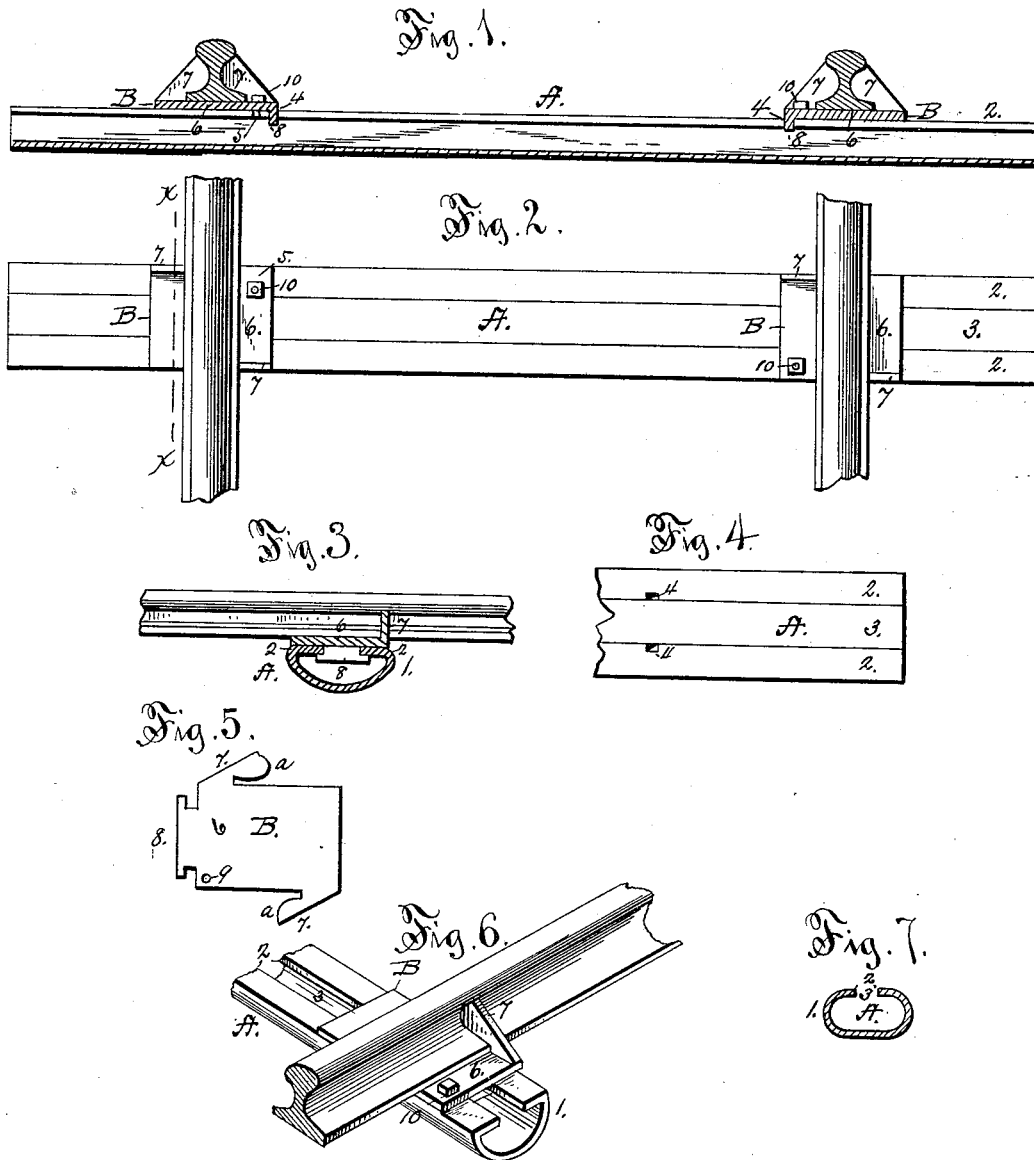


(No Model.)

W. KILPATRICK.
RAILROAD SLEEPER AND CHAIR.

No. 344,185.

Patented June 22, 1886.



WITNESSES
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WORTH KILPATRICK, OF CONNELLSVILLE, PENNSYLVANIA.

RAILROAD SLEEPER AND CHAIR.

SPECIFICATION forming part of Letters Patent No. 344,185, dated June 22, 1886.

Application filed April 13, 1886. Serial No. 198,718. (No model.)

To all whom it may concern:

Be it known that I, WORTH KILPATRICK, a citizen of the United States of America, residing at Connelssville, in the county of Fayette and State of Pennsylvania, have invented a new and useful Railroad Sleeper and Chair, of which the following is a specification.

My invention has relation to improvements in railroad sleepers or cross-ties and chairs, and the objects are, first, to provide a metallic cross-tie or sleeper of a simple, durable, and effective construction; second, to provide chairs which are effective to hold the rails in position and which set secure and firm in the cross-tie, and which chairs may be conveniently adjusted to the desired position on the track; and, third, to simplify the construction of metallic cross-ties and track-chairs.

With these objects in view my invention consists, first, in a metallic railroad cross-tie of peculiar construction; second, in a railroad chair of peculiar construction to set on and be held by such cross-tie; and, third, in the novel construction and combination of the parts, as will be hereinafter fully described, and specifically as pointed out in the claims made hereto, as required by the statute.

I have fully illustrated my invention in the accompanying drawings, forming a part of this specification, wherein Figure 1 is a longitudinal section of the cross-tie with the chairs in position thereon and the rails set in the chairs. Fig. 2 is a plan view of the cross-tie with chairs and rails set thereon. Fig. 3 is a transverse section of the cross-tie, taken on the line *xx* of Fig. 2, wherein the chair with rail is also shown. Fig. 4 is a plan view of a section of the cross-tie, showing the notches through which the T-flange of the chair slips. Fig. 5 is a view of the chair-blank, showing it in condition before forming the complete chair. Fig. 6 is a perspective of the completed chair, and Fig. 7 is a modified form of the cross-tie, shown in cross-section.

In the drawings like letters and numbers indicate similar parts, and, reference being had thereto, the letter A designates my improved sleeper or cross-tie. This consists of a metal shell or plate of semi-cylindrical or elliptical conformation in cross-section, as 1, with the horizontal edges bent inward and

down to a common plane, as at 2, so that flat upper surface is provided for the chairs to rest on. The edges of the flanges do not touch but are left separated, as shown, to form a slot or opening, 3, in which the neck of the T-flange sets while the T sets under the flanges of the sleeper and holds the chair in its seat. These cross-ties may be rolled into shape, or they may be struck into the desired form from a plate of iron or steel by any mechanism adapted to that purpose. I have shown the preferred form in Fig. 3 of the drawings, wherein the flanges are shown as struck or formed square from the terminations of the curve with the metal re-enforced in the under line of intersection; but a simpler form is shown in the modification given in Fig. 7, wherein the flanges are bent over, leaving the line of union with the body rounded. It is apparent that the only difference is in the shape of the corners of the flanges in their union with the body, the former giving a larger face-surface, the latter being elliptical. The slot 3, left between the edges of the flanges, may vary with the size of the cross-tie and the chair and rail to be supported. In the flanges near to the determined seat of each chair are formed notches 4, to admit the branches of the T on the chair, and at the proper place, where the chair is seated, is formed a bolt-hole, 5, to receive the bolt which passes through the chair and secures the parts together. It will be perceived that the notches in the flanges may be dispensed with and the chairs slipped on from the ends of the rails; but this is not always convenient; hence I provide the notches to be taken in the branches of the T.

The letter B designates the chair-blank. This is composed of the chair-seat 6, formed with side ears, 7, arranged diagonally to each other on the edges of the blank and having their inner or rail faces, *a*, formed to suit the shape of the bottom flange and neck of the rail, whatever shape these may be, the purpose being to have the faces of the side ears fit snugly and firmly to the side of the rail. These side ears are struck up vertically, forming walls, and are the clamps which pinch the rails and hold them in position.

On the ends of the blank is formed a T-shaped flange, 8, which is struck square down and is intended to hold the chair to the cross-

tie. This it does by the branches of the T setting under the flanges of the cross-tie, with the flanges in the grooves thus formed. In the chair is a bolt-hole, 9, through which and the bolt-hole in the cross-tie, as stated, the fastening-bolt 10 passes, and then the bolt is secured by a nut on the end, or it may be riveted, if so desired.

The chair is conveniently and readily set on the rail by turning it about to let the rail between the ears and then bringing it square in place.

It will be perceived that the shape of the cross-tie gives ready opportunity for tamping the foundation and putting in the ballast. The form also serves as a cushion to the weight of the passing loads, and the clamping-ears of the chairs in connection to the tie and rail make a firm and secure fastening, preventing the rails from twisting or spreading.

It will be observed that the chairs may be conveniently utilized on the common wooden cross-tie by leaving the T off, when they may be applied as stated and secured by the usual means.

What I claim is—

1. The improved cross-tie herein described, consisting of a metal sheet or plate formed with a curved body in cross section and inwardly-turned and horizontally-arranged edge flanges, with opening between them, for the purpose stated.

2. The improved cross tie herein described, consisting of a metal sheet or plate of semi-cylindrical conformation in cross-section, with the longitudinal edges bent inward and down to a common plane, with an opening between them, substantially as and for the purpose stated.

3. The chair composed of the body or seat 6, formed with side ears, 7, arranged on opposite edges of the blank and diagonally to each other, and struck upward at right angles to the body or seat, substantially as described.

4. The chair composed of the body or seat 6, side ears, 7, arranged on opposite edges of the body and diagonally to each other, and struck upward at right angles to the body, and the T-flange on the end of the chair, struck down at right angles to the body, substantially as described.

5. The combination of the cross-tie formed with inwardly-turned flanges, forming a flat surface, and arranged with a slot or opening between them, with a chair formed with side ears on opposite edges of the blank and diagonally to each other, and struck upward at right angles to the body, and a depending T-flange on the end of the chair to engage the flanges on the cross-tie, and a fastening-bolt let through the chair and the flange of the tie, substantially as described.

6. The combination of the cross tie formed with a curved body and inwardly turned edge flanges having notches, as 4, the chair formed with side ears struck vertically to the plate of the chair and arranged on opposite sides thereof and diagonally to each other, and the depending flange on the end of the chair, and a fastening-bolt let through the chair and flange of the cross-tie, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two attesting witnesses.

WORTH KILPATRICK.

Attest:

SAMUEL PORTER.
JOHN KURTZ.