

(No Model.)

E. SAMUEL.
BOX BRIDGE JOINT FOR RAILWAY RAILS.

No. 502,587.

Patented Aug. 1, 1893.

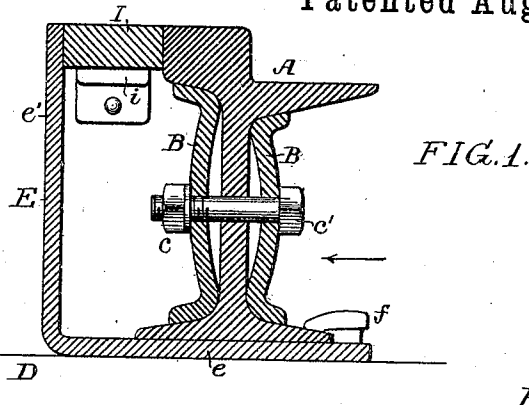


FIG. 1.

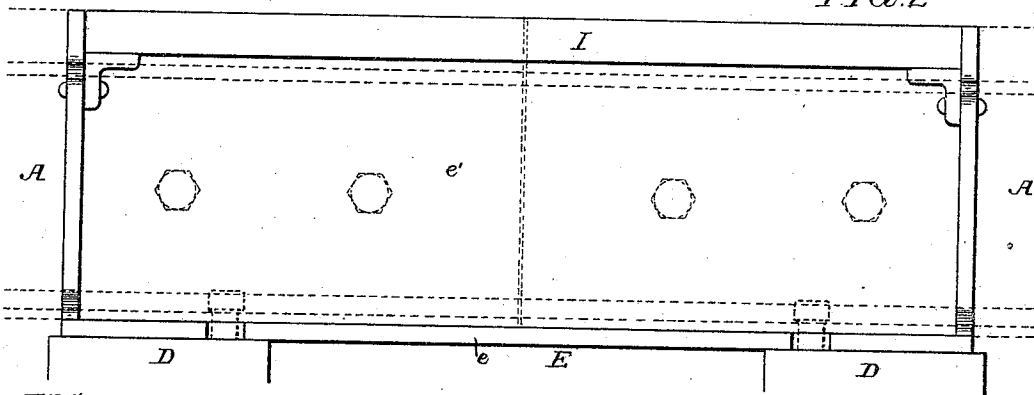


FIG. 2.

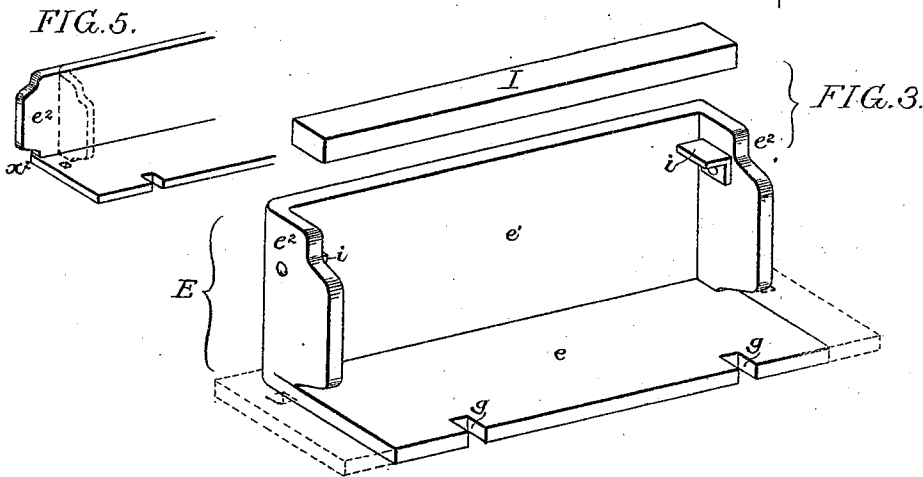


FIG. 3.

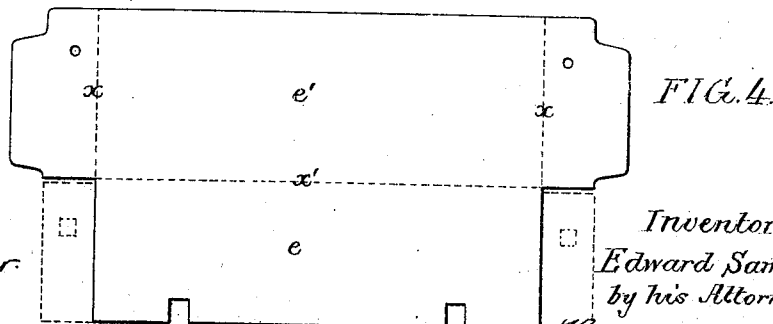


FIG. 4.

Witnesses:
R. Schleicher
Alex. Barkoff

Inventor:
Edward Samuel
by his Attorneys
Hiram H. Hiram

UNITED STATES PATENT OFFICE.

EDWARD SAMUEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF SAME PLACE.

BOX-BRIDGE JOINT FOR RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 502,587, dated August 1, 1893.

Application filed January 5, 1893. Serial No. 457,366. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SAMUEL, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Box-Bridge Joints for Railway-Rails, of which the following is a specification.

The object of my invention is to provide a rail joint with a combination box and bridge which will extend from one tie to another at the joint or rest upon a stringer, and support the rails, at the same time inclosing the nuts or other fastenings which secure the fish plates and rails together. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1, is a transverse sectional view illustrating my invention. Fig. 2, is a side view of the combined box and bridge piece looking in the direction of the arrow, Fig. 1, the rails being shown by dotted lines. Fig. 3, is a detached perspective view of the box. Fig. 4, is a plan view of the blank from which the box is made. Fig. 5, is a perspective view showing part of an angle bar blank.

A, A are the rails secured together by the fish plates B, B, and bolts C provided with nuts c. It will be understood that other fastenings may be employed to secure the fish plates to the rails, without departing from my invention.

D, D are the cross ties.

E is the inclosing box which in the present instance is made of plate metal, and has a horizontal portion *e* and a vertical portion *e'*. The horizontal portion *e* extends under the rails as clearly shown in Fig. 1, while the portion *e'* extends from the portion *e* to the surface of the road, which in most instances is on a level with the heads of the rails.

The box preferably extends from one cross tie to the other, and is secured thereto by spikes *f*, which pass through openings *g* in the portion *e* of the box, the heads of the spikes extending over the base flange of each rail, thus also fastening the rails to the tie. It will be seen that the box forms a bridge piece to support the rails at the joint, and the upright portion of the box forms a brace for the bottom plate *e*, thus stiffening the bridge piece without adding very materially

to its weight, and without forming projections under the bridge plate which would interfere with the tamping of the road bed.

The box E has end pieces *e²*, their inner ends conforming to the shape of the rail, and secured to these end pieces are brackets *i*, which support the cover plate I. This cover plate rests between the rail and the vertical portion *e'* of the box, and completely closes the opening.

The box is preferably made of plate metal, and the flat blank therefor is cut as shown in Fig. 4. The end pieces *e²* are turned up from the body on the lines *x—x*, and the body is bent on the line *x'*, until the portions *e'* and *e* are at right angles to each other, as shown in Fig. 1. The brackets *i* may be riveted or bolted to the end portions *e²*, either before or after they are bent.

The box may be made of rolled angle bars instead of plates, as shown in Fig. 5, the portions *e*, *e'* being the two angle plates of the bar. This bar is cut the proper length and then incisions are made at *x²* at each end of the blank, and the ends are bent on the line *x* as in Fig. 3, forming the portions *e²*.

In Figs. 3 and 4, I have shown by dotted lines an extension of the bottom plate *e* beyond the end plate *e²*. These extensions have holes punched in them for the reception of spikes. In some instances, an extended base is necessary so as to give increased bearing on the ties, and so that spikes may be driven on the box side of the rails.

I claim as my invention—

1. The combination in a combined joint box and bridge for railway rails of the flat bottom plate adapted to pass between the rails and the ties and extending from one tie to another, with a side plate forming the strengthening member of the bridge, and end plates forming with the bottom and side plates the inclosing box, substantially as described.

2. A blank for an inclosing box for joint plates for railway rails, the same consisting of the central section *e'*, the section *e* extending from the side of the section *e'*, and end sections *e²* extending from each end of the central section, substantially as described.

3. A combined box and bridge for railway rail joints made of wrought metal shaped and

bent, forming a bottom plate *e* extending under the rails, and secured to the tie, with a vertical section *e'* and end sections *e*², said end sections conforming to the shape of the rails, with a cover plate for the box thus formed, substantially as described.

4. The combination of the wrought metal box for the joints of railway rails, said box consisting of a bottom plate *e* extending under the rails and secured to the ties, the side plate *e'* and end plates *e*², brackets *i* secured to the end plates, and a cover plate fitting between the rails and the side plate, and supported by the brackets *i*, substantially as described.

5. The combination in a combined box and bridge joint, of the box formed of a bottom plate, side plate and end plates, said bottom

plate extending beyond the end plates, substantially as described.

6. An inclosing box for railway joints consisting of the flat bottom plate extending under and beyond the rails and from one tie to another, a side plate extending from the bottom plate to the surface of the highway, end sections and a cover plate with securing devices passing through the bottom plate and into the ties, substantially as set forth.

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

EDWARD SAMUEL.

Witnesses:

WILLIAM D. CONNER,
JOSEPH H. KLEIN.