

E. U. Benedict,
Railroad Rail Joint.

N^o 21,406.

Patented Sep. 7, 1858.

Fig. 1

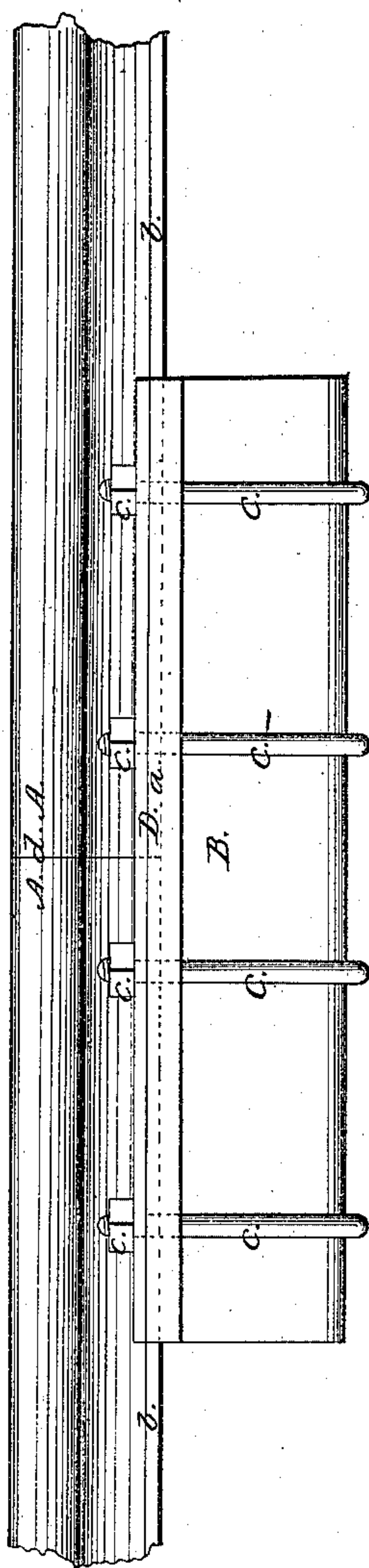
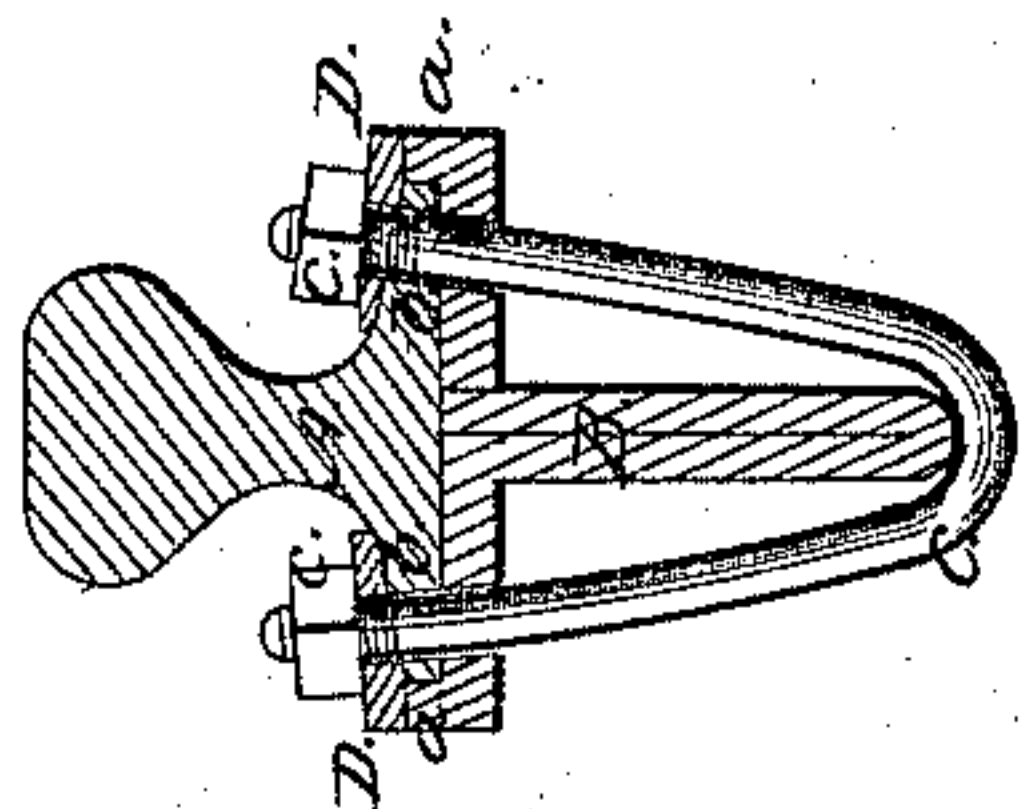


Fig. 2.



UNITED STATES PATENT OFFICE.

E. U. BENEDICT, OF HORICON, WISCONSIN.

JOINT FOR RAILROAD-TRACKS.

Specification of Letters Patent No. 21,406, dated September 7, 1858.

To all whom it may concern:

Be it known that I, E. U. BENEDICT, of Horicon, in the county of Dodge and State of Wisconsin, have invented a new and Improved Joint for Railroad-Tracks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my improved joint. Fig. 2 is a transverse section of the same.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to prevent the depression of the rails at the junction of the bars, and the consequent battering and lamination of the ends of the bars by the passing of trains over them.

The invention consists in a joint plate constructed, applied, and secured to the ends of the bars in a novel manner to effect the above object.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

A, A, are portions of two railroad bars of the inverted T-form commonly employed. The ends of these bars are cut square to fit together in the usual manner or may be cut to fit together in any other suitable manner. The line *d*, in Fig. 1, represents the joint.

B is the joint plate, made of a piece of heavy boiler plate or wrought plate iron about eighteen (18) inches long or more or less, and about nine (9) or ten (10) inches in width, bent centrally and laterally by suitable machinery to the form shown in the sectional view (Fig. 2), viz. to the form of a letter T, with its head turned up at each margin to form lips *a, a*, with a suitable space between them to receive the base of the rail, and the portions forming the upright part or stem of the T being brought close together to form a solid and deep longitudinal fin of four (4) or five (5) inches deep; the said lips being of a depth about equal to the depth of the sides of the base of the rail.

D, D, are two wrought iron plates of the same or nearly the same thickness as the plate B, of the same length, and of a width

to cover the lips *a, a*, of the joint plate, and the sides of the base *b*, of the rail.

C, C, are inverted stirrup-bolts, screwed at their ends, and of a length to fit under the upright fin of the joint plate and to pass through holes provided for them in each side of the base *b*, of the rail and corresponding holes in the plates D, D, and fitted with nuts *c, c*, above said plates D, D. These nuts when screwed up bring the plates D, D, down close upon the base of the rail and confine the base of the rail upon the flat upper face of the joint plate and make a very firm and solid joint between the two bars A, A; the upright fin of the joint plate affording sufficient stiffness to prevent any deflection of said plate and rendering it impossible for the ends of the bars A, A, to be depressed or elevated by the passage of a train over the joint and hence rendering the ends of the bars no more liable to be battered out or laminated than any other portion of the rail and making a continuous level track upon which the train will run smoothly and without violent and destructive concussions upon the wheels and axles.

The sleepers are intended to be placed as close as possible to the ends of the joint plate B, but are unnecessary under the joint *d*, or joint plate.

The holes through which the bolts pass in the base *b*, of the rail, may be somewhat elongated lengthwise of the rail, to compensate for expansion and contraction of the bars A, A, by changes of temperature.

I do not claim, broadly, the placing of a vertical pin or projection upon the bottom of railroad chairs; but,

What I claim as my invention, and desire to secure by Letters Patent, is:—

The combination of the ends of the rail A, with the peculiarly constructed wrought iron T-shaped joint plate B, by means of the stirrup bolts C, which pass from the upper surface of the base (*b*) of the rail, through the said base, and through the lips (*a*) of the plate B, and around the lower edge or fin of said plate, substantially as and for the purposes herein set forth.

E. U. BENEDICT.

Witnesses:

J. SCHOENMANN,
J. B. RITTH.