

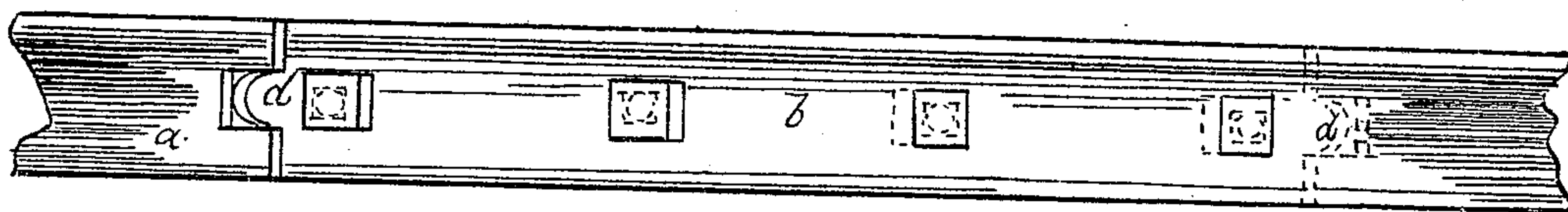
*Edward D. Pritchard*  
*Improved Rail-Road Rail*

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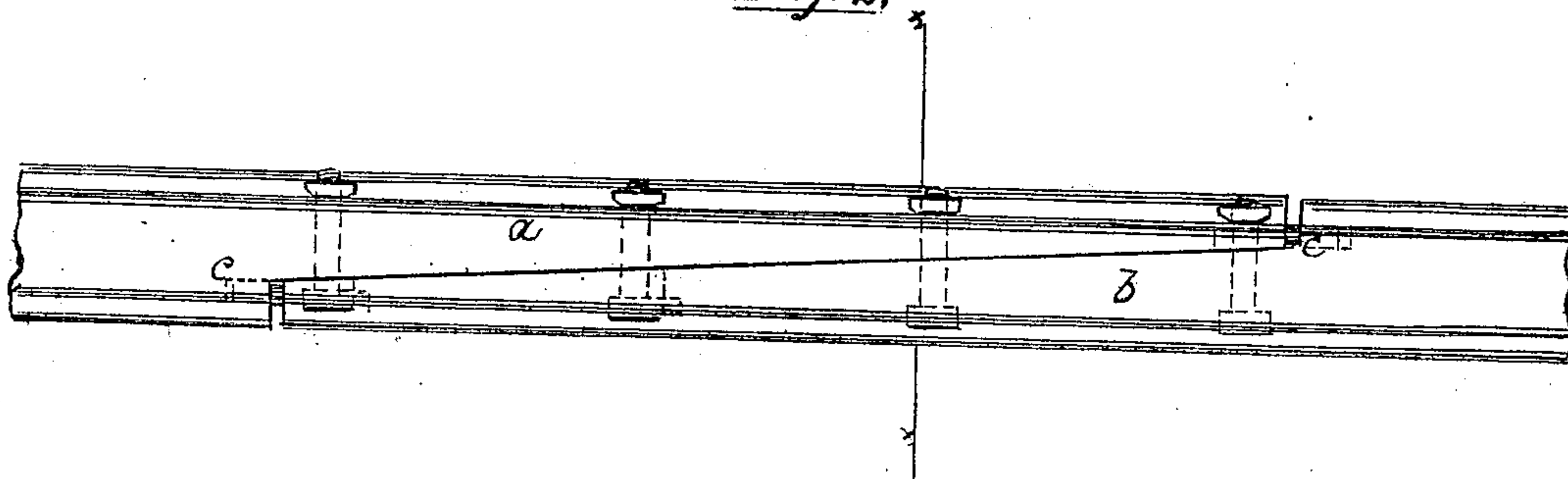
*Fig. 1*

PATENTED

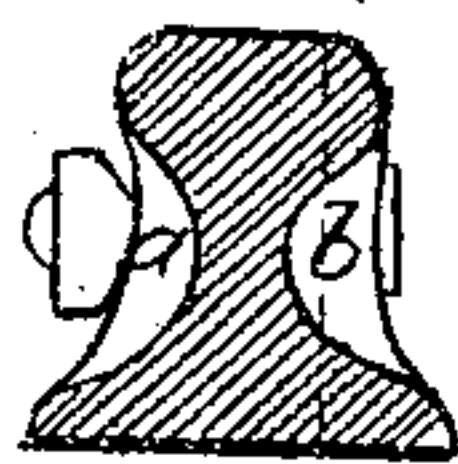
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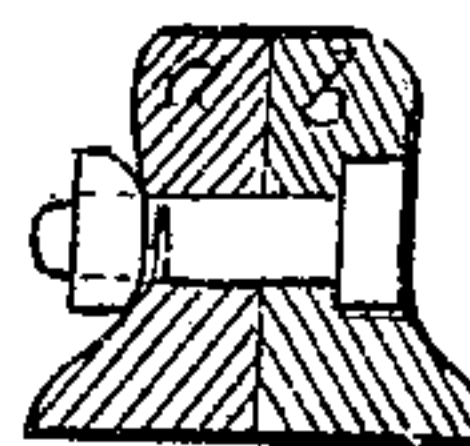
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Witnesses.*  
*J. H. Adams*  
*Richard Jaques*

*Edward D. Pritchard*

# United States Patent Office.

EDWARD D. PRITCHARD, OF BOSTON, MASSACHUSETTS.

*Letters Patent No. 72,902, dated December 31, 1867.*

## IMPROVED RAILROAD-RAIL.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, EDWARD D. PRITCHARD, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and useful Improvement in Railroad-Rails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a side elevation,

Figure 2 is a plan view, and

Figure 3 is a section of the main portion of the rail.

Figure 4 is a section of the joint, on line *x x* of fig. 2.

The object of my invention is to connect the ends of railroad-rails together in such a manner as to prevent the concussive jar occasioned by the passing of the wheels of a railroad-car or locomotive from one rail to another, so as to insure a smooth and even passage of the wheels over the rails, and prevent injury to the ends of the rails, and also to admit of the necessary expansion and contraction of the rails caused by the changes of temperature. And the invention consists in forming the ends of the rails with a bevelled or inclined side, so that when the two ends of adjacent rails are joined together they will have the same width of tread as the main portion of the rail. The outer side of the portion of the rail thus bevelled is made flush, or nearly so, with the tread of the rail, so as to increase its thickness, and give it additional strength. The two bevelled ends are connected together by means of square bolts and nuts, the bolts being fitted in square holes which are enlarged in the thinner portion of each end of the rail, so as to admit of sufficient movement to accommodate the expansion and contraction of the rails. In passing over the rails the wheels of the locomotive or car depress the end of one rail slightly below the level of the next rail, thus causing a succession of jars which in time prove injurious to the cars, as well as to the rails, the ends of the latter becoming battered and rendered useless, so as to require frequent renewal. Various attempts have been made to remedy these defects, but as far as I am aware, without full success.

Referring to the drawings, *a b* represent, respectively, the ends of adjacent rails. At a point some twenty inches, more or less, from the end of the rail, is formed a shoulder, *c*, and from the inner end of the said shoulder the rail is bevelled off to its end, leaving a sufficient thickness at the end of the rail to fit within a corresponding shoulder in the adjacent rail. The outer side of the portion thus bevelled off is made flush, or nearly so, with the edge of the tread, as shown in fig. 4, in order to give additional strength to the ends of the rails. The outer end of each rail is provided with a curved or square projection, *d*, fitting within a corresponding recess in the next rail, so as to aid in preventing the end of one rail from rising above that of the next one. The ends or bevelled portions of the rails are secured together by means of bolts and nuts, the bolts being made square and fitting within square holes in the rails. The holes or openings that receive the bolts are enlarged or made oblong near the smaller portion of the bevelled ends of the rail, on each side, in order to admit of a slight longitudinal movement of the rails occasioned by the expansion or contraction of the rails. When the rails are securely bolted together, they will form a continuous, even-bearing surface, the joints being so arranged as to avoid any jar or concussion from the wheels as the latter pass from one rail to another.

What I claim as new, and desire to secure by Letters Patent, is—

A railroad-rail, formed with enlarged ends, as described, and mitred joints, when the small end of the joint is provided with shoulders *c*, and connected together by means of bolts passing through elongated openings in the same, substantially as and for the purpose set forth.

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

EDWARD D. PRITCHARD.

Witnesses:

J. H. ADAMS,

RICHARD JACQUES.