

(No Model.)

No. 305,773.

A. W. WRIGHT.  
RAILWAY RAIL JOINT.

Patented Sept. 30, 1884.

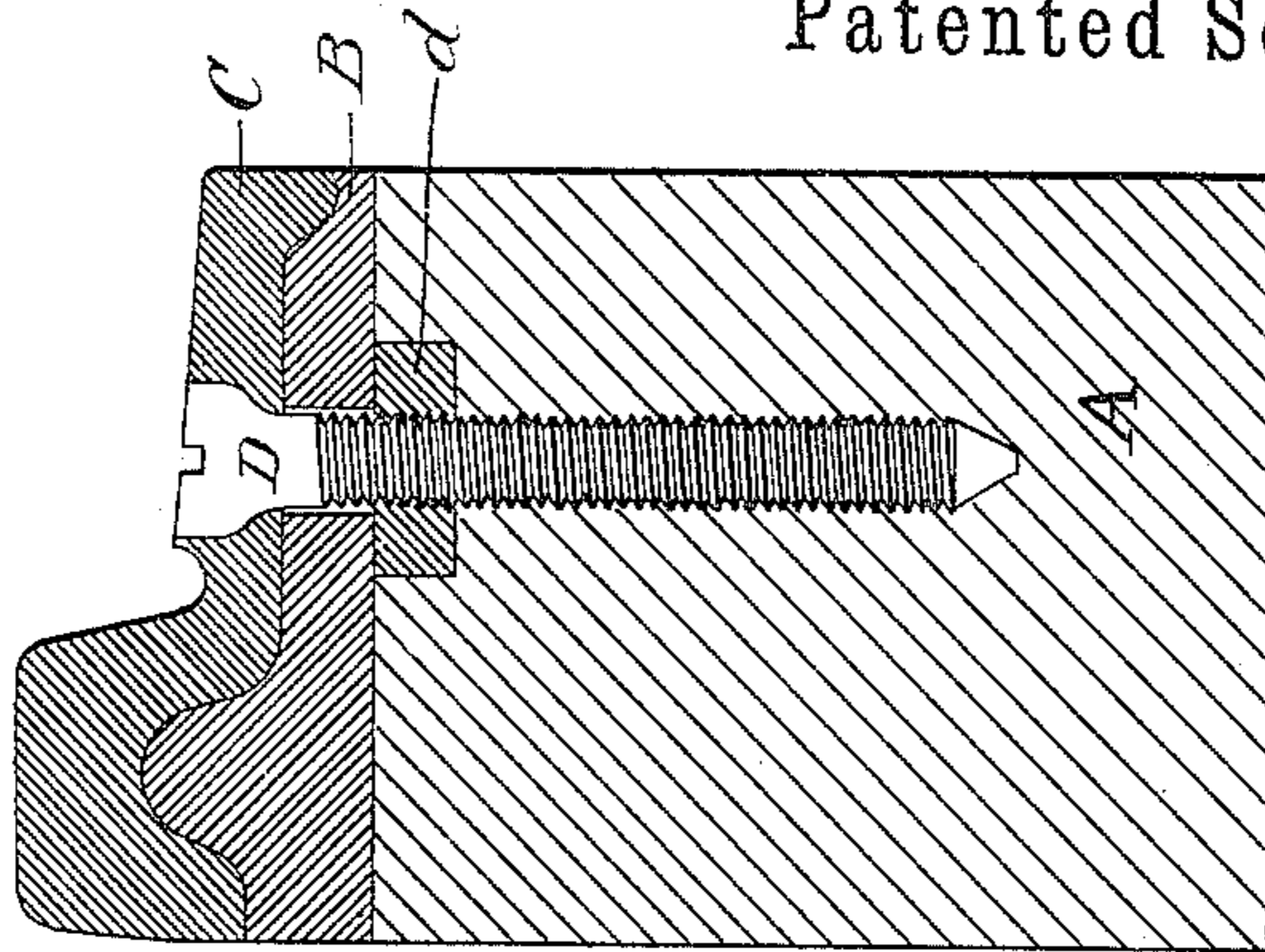


Fig. 2.

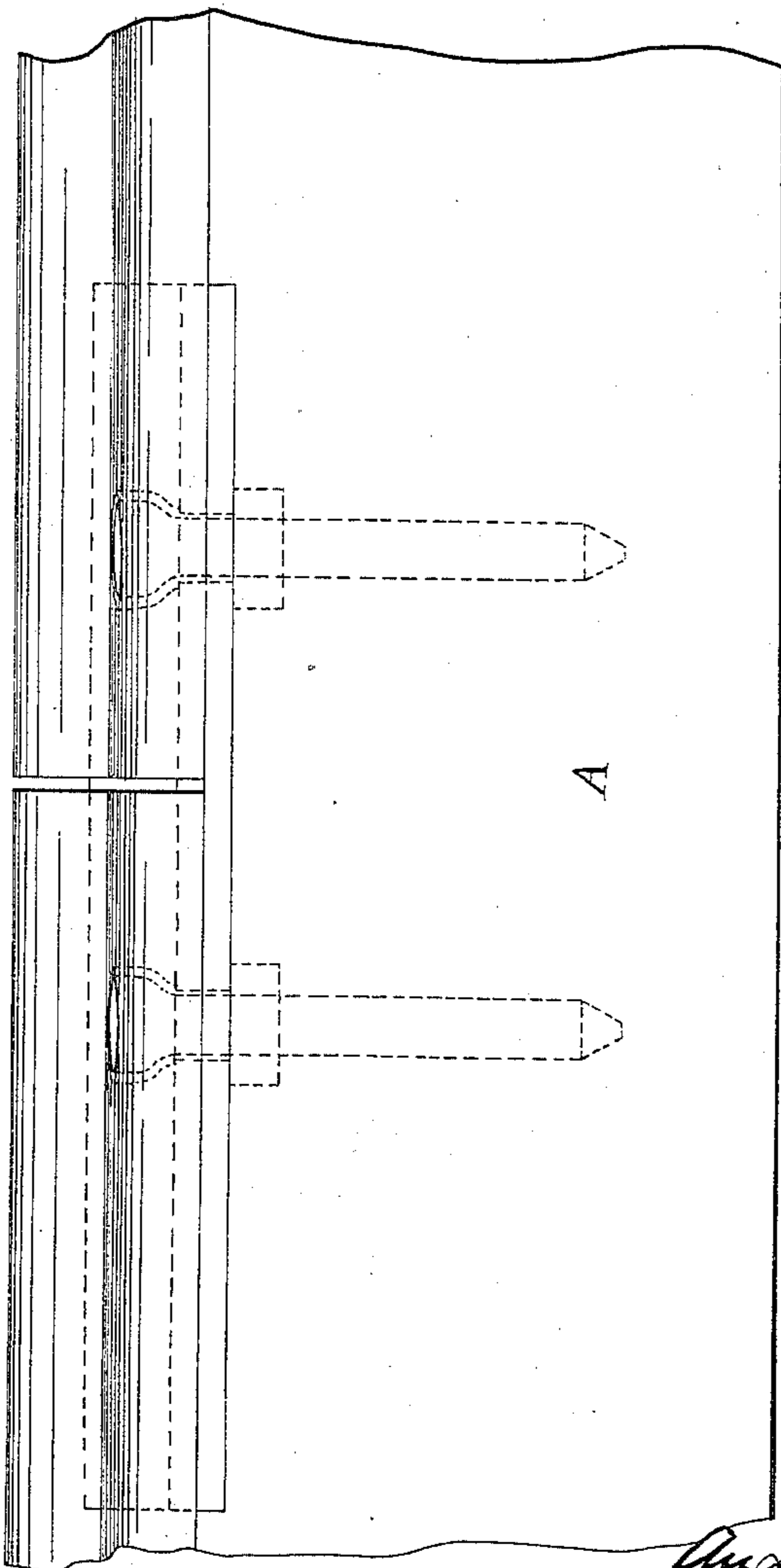


Fig. 1.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 305,773, dated September 30, 1884.

Application filed March 8, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTINE W. WRIGHT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have made a certain new and useful Invention in Railway-Rail Joints, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My present invention has relation to the improvement of railway-rail joints, and in particular does it relate to that class of joints that are particularly applicable for use on the rails of street-railways.

In the construction of street-railways as at present commonly practiced, it is customary to lay the rails upon stringers, and to connect the abutting ends of the rails by means of chairs or splice-plates upon which the rail ends rest, and to which they are connected by spikes passing through the rails and chairs and embedded in the stringers. An objectionable feature of this construction is that the weight of the cars and traffic upon the rails has the effect, after a time, of loosening the spikes and packing down the fibers of the wooden stringers, and hence depressing their upper surface, so that the joint between the rails and the chairs becomes insecure, allowing the ends of the rails to lie unevenly and be pounded by the car-wheels and speedily worn out.

My present invention has for its object to provide an improved joint for railway-rails by means of which the abutting ends of the rails shall be firmly held to the chairs and to the stringers in such manner that, notwithstanding any slight depression in the surface of the stringers, or loosening of the bolts after long and severe usage, when the wood has begun to soften, the joint between the chair and the rail ends will remain firm, and the surface of the rail ends will be always in the same horizontal plane, and hence not subject to excessive wear.

To this end my invention consists in combining or joining the rails, the chairs or tie-plates, and the stringers or other suitable supports by means of bolts which pass through slots or perforations in the rails and chairs, and

are suitably connected to the stringers, such bolts being provided with nuts which firmly clamp and hold the rails and chairs together regardless of any possible loosening of the bolts in the wood or irregularities of the stringers.

My invention also consists of certain details of construction to be hereinafter described, and particularly pointed out in the claims at the end of this specification.

Figure 1 is a view in side elevation. Fig. 2 is a view in vertical transverse section.

A designates a stringer upon which rests the chair B, that supports the abutting ends of the rails C. These rails and chairs are provided with suitable perforations (elongated slightly to allow for expansion and contraction) through which pass the bolts D, that carry the nuts *d*. These nuts *d*, fitting as they do over the threaded portion of the bolts, serve to clamp the rail ends and the chair firmly together, and as they rest within seats in the upper surface of the stringer, and are preferably somewhat oblong, they are thus securely locked against accidental loosening. The threaded portions of the bolts D enter the stringer and hold the chair and rails securely in place thereon.

It will be understood, however, that although I have shown the bolts with threaded portions for entering the stringer, they may be attached thereto in other suitable ways without departing from the spirit of my invention.

In laying the rails I cut seats in the stringers for the chairs, but am careful to cut the seats such depth only that the chairs will hold the portions of the rails immediately beyond them a very slight distance above the surface of the stringers, as it will happen that after some use the chairs will sink into the stringers a sufficient distance to permit the rails to rest thereon.

It will be noticed that the ends of the rails are not above the central point of the chair, but that the larger part of the chair is beneath the farther rail with reference to the direction of travel. This arrangement is made for the reason that the strain upon the end of that rail is greater than upon the other, and hence a broader support is desirable.

I am aware that it has been heretofore proposed to connect the rails and chairs by means of screw-bolts having jam-nuts thereon; but such bolts did not serve the purpose of retaining the rails on the stringers.

I am also aware that screw-bolts have been passed through rails and chairs and into the stringers, and have been furnished with nuts to prevent the withdrawal of the screws from the wood. Such constructions, however, do not accomplish the purpose of my invention, and I do not wish, therefore, to be understood as making any claim thereto.

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

1. In a railway-rail joint, the combination, with the rails having their abutting ends of usual construction, the chair or tie-plate formed of a single piece of metal, and the stringer, of bolts passing through the rail and the chair, and provided with suitable connections for holding them to the stringers, said

bolts being furnished with nuts arranged to bear upon the chairs and clamp them to the rails, substantially as described. 25

2. In a railway-rail joint, the combination, with the rails, the chair or tie-plate, and the stringer, of bolts passing through the rails and chair, and having nuts arranged, substantially as described, to clamp them together, and having screw-threaded portions for entering the stringers, substantially as set forth. 30

3. In a railway-rail joint, the combination, with the rails, the chair, and the stringer having nut-seats in the top thereof, of the bolts having screw-threaded portions for entering the stringers, and having nuts arranged substantially as described. 35

In testimony whereof I have hereunto set hand this 5th day of March, 1884. 40

AUGUSTINE W. WRIGHT.

In presence of—

GEO. P. FISHER, Jr.,  
H. E. FOSTER.