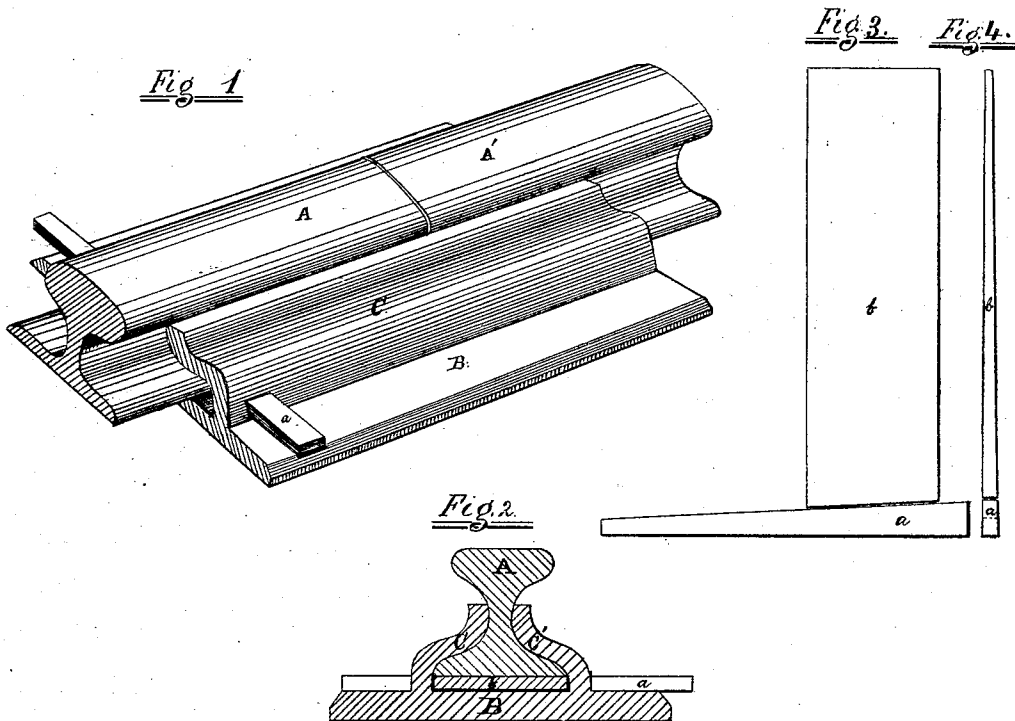


S. FERRIS.
Railway Rail-Chairs.

No. 145,936.

Patented Dec. 30, 1873.



Witnesses.

A. S. Fitch.
A. Livingston Mills

Inventor.

Smith Ferris
By J. P. Fitch, his atty.

UNITED STATES PATENT OFFICE.

SMITH FERRIS, OF NEW YORK, N. Y.

IMPROVEMENT IN RAILWAY-RAIL CHAIRS.

Specification forming part of Letters Patent No. **145,936**, dated December 30, 1873; application filed July 13, 1872.

To all whom it may concern:

Be it known that I, SMITH FERRIS, of the city, county, and State of New York, have invented a new and Improved Rail-Chair for the support and fastening of rails where they are jointed, of which the following is a specification, reference being had to the accompanying drawing forming part thereof.

My invention consists in the combination, hereinafter particularly described, of certain wedges with a railway-chair, whereby the rails of a railway are held securely together at their ends without the use of bolts passing through the rails.

Figure 1 is a perspective view of a rail-joint made with a chair embodying my invention. Fig. 2 is a cross-sectional view of the same. Fig. 3 is a face view of the wedges employed to fasten the chair firmly to the rails. Fig. 4 is an edge view of the same.

In Figs. 1 and 2, A A' are two rails, forming a joint, as shown. B is the chair, having the jaws C C', which conform to and fit closely upon the base and web of the rails. The wedge *b* is driven in underneath the rails, between the base of the rails and the chair, and extends nearly the length of the chair, and across the joint, crowding the rails tight up against the jaws of the chair. The wedge *a*, being driven in place across the head of the wedge *b*, holds the wedge *b* securely in place, and furnishes a means of tightening the wedge *b* in place should it become loose. The smaller end of the wedge *a* may then be bent over or

clined upon the edge of the base of the chair B.

In using this chair in laying rails, the ends of the rails are first slipped into the jaws of the chair; the wedge *b* is then driven in firmly between the base of the rails and the bottom of the chair; and the wedge *a* is finally driven across the head of the wedge *b*, and clinched or turned over upon the edge of the base of the chair.

It is evident that a rail-chair thus constructed and arranged holds the rails very firmly in position, and forms a perfect and steady joint, without the liability of the ends of the rails becoming disadjusted to one another or displaced in any way, and without the use of any bolts through the posts of the rails, as is ordinarily done.

The chairs may be made of either wrought or cast iron, while the wedges may be cut from straight pieces or strips of such metal, rendering the chair, in all its parts, inexpensive as well as convenient and easy to operate.

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

The combination, with the jaws of a railway-chair, of a wedge, *b*, to be driven longitudinally under the rail, and a cross-wedge, *a*, to be driven, through an aperture in the chair, against the rear or butt end of the first-named wedges, as and for the purposes specified.

Witnesses: SMITH FERRIS.

J. P. FITCH,
A. S. FITCH.