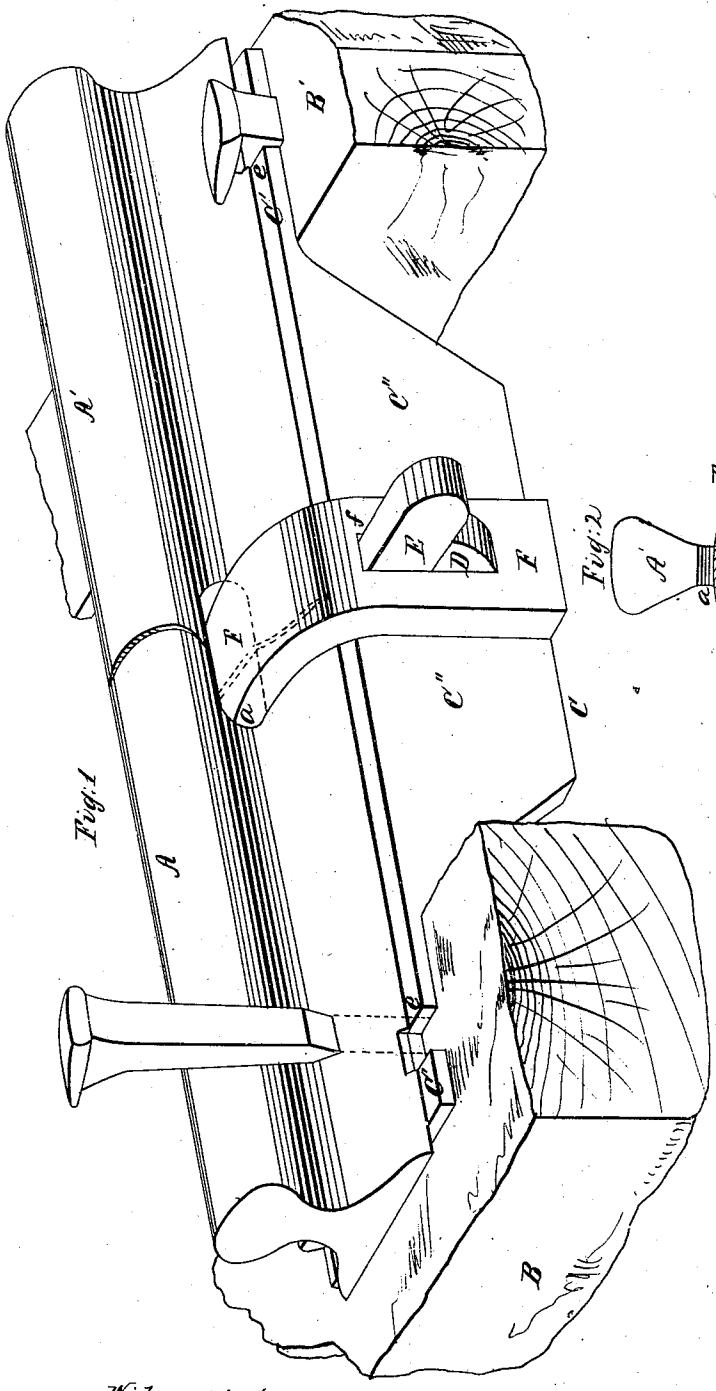
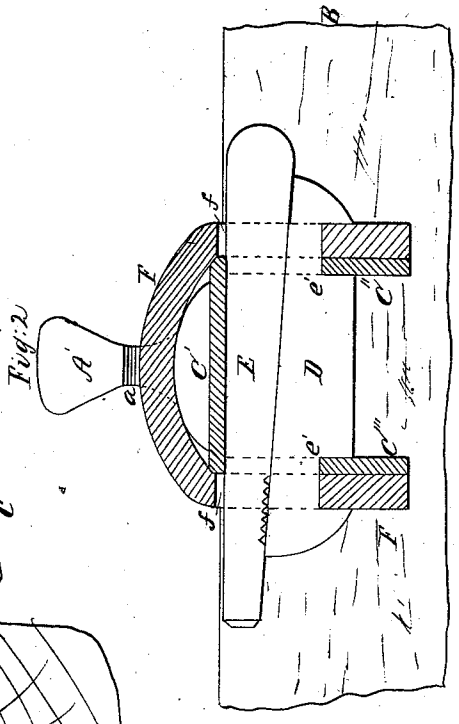
N. Headington.

Railroad Rail Joint.

No. 59,218. Patented Oct. 30, 1866.





Witnesses
S. H. Layman
T. J. Magee

Inventor
N. Headington
By Knight Bros
Attys

UNITED STATES PATENT OFFICE.

NICHOLAS HEADINGTON, OF CINCINNATI, OHIO.

IMPROVED RAILWAY-CHAIR.

Specification forming part of Letters Patent No. **59,218**, dated October 30, 1866.

To all whom it may concern:

Be it known that I, NICHOLAS HEADINGTON, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Railroad-Chair; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to a form of railroad-chair usable with any description of T-rail having a flat base, and adapted to secure the advantages of stiffness and continuity, together with such due measure of elasticity as to preserve from destruction the contiguous ends of the rail.

Figure 1 represents, in perspective, the contiguous ends of two rails supported on my improved chair. Fig. 2 is a transverse section through the chair at its midlength.

A A′ represent portions of two contiguous rails, and B B′ portions of the two cross ties or sleepers nearest to the rail ends. The rails are notched (*a*) at their ends, for a purpose to be explained.

C is the seat or chair proper, consisting of a plate, C′, of wrought-iron, of such length as to extend from sleeper to sleeper, and to rest upon each, and of such width as to support the entire base of the rails between the sleepers.

From that portion of the edges of the plate C′ which intervenes between the sleepers there depend vertically two ribs or wings, C″ C‴, of greater or less depth, according to the desired stiffness of the chair.

In order to economize metal, the ends of the ribs C″ C‴ converge downward, as represented.

The chair or seat C may be formed somewhat wider than the base of the rail, and may have notches *e* to receive the spikes which fasten the rail down to the sleeper; or it may be of equal width with or narrower than the base of the rail.

There is a slot, *e′*, in each rib, which is traversed by a gib, D, and key E, and said gib and key traverse similar slots *f* in a strap, F, which, being passed through notches *a* in the rail ends, embraces the sides of the chair, and serves to hold the ends of the rails opposite to each other and firmly down upon the chair, and thus, by causing the pressure that is upon one rail to operate simultaneously upon the adjoining one, to keep their upper surfaces even, and to prevent the hammering and bruising of the end of that rail toward which the train is approaching.

By having the chair suspended between two sleepers, its ends resting upon each, and the desired degree of rigidity being secured by the depth of its ribs, and by having the adjacent rail ends fastened immovably to the seat by means of the strap, the track will possess at its joints equal strength, smoothness, and elasticity to its other parts.

It will be observed that the seat is not supported by nor bolted to the rail, but supports the latter, and is itself supported directly upon the sleepers.

There will be no difficulty whatever in adjusting the rail's chair-seat and strap to each other when laying the track, nor in separating them when taking up the track, except where a single rail has to be removed or replaced between two others already in position. To remove a rail under such circumstances, the keys and gibs of both ends of it must be taken out, and the spikes which hold it to the sleepers drawn, as well as a portion of those which hold one of the adjoining rails. In this way the ends of two rails, forming a joint, will be loosened, so that they can be lifted up until the strap is clear of the chair, when it can be slipped through the notches in the ends of the rails and taken out; or, while the ends of the rails are elevated, the chair-seat may be taken away, the rails lowered, and the strap then taken out. The strap at one end of the rail having been thus taken away, the rail may be shifted lengthwise until it clears the strap at the other end, and then lifted from its place.

The operation just described must be reversed when a single rail has to be laid between two rails already in position.

Each edge of the key E having a long bearing-surface, it is not believed there will be any danger of its becoming loosened; but if that result should ensue, it may be tightened by a blow with a hammer, and it may be held in its place by filing a small notch across the upper edge of the gib, and a succession of corresponding notches across the lower edge of the key, one of which, in conjunction with that on

the gib, will form a hole into which a nail or piece of wire may be driven; but if the key, from any cause, should be entirely displaced no serious consequence would result. The chair-seat would support the ends of the rails, as before, the strap would keep them opposite each other, and there would be only a very slight depression of the end of one rail below that of the adjoining rail as the cars passed over them, which would be obviated by inserting a new key as soon as the loss was discovered.

That this depression would be but a small fraction of that which takes place with the ordinary railroad-chair is obvious. In the first place, the length of the rail end to be depressed, instead of being the distance from one sleeper to the middle of the next, is less than one-half of that distance, which, of itself, eliminates fully one-half of the depression; and, in the next place, as the end of the rail would be supported by the chair-seat, the resistance to be overcome in making the depression would be not only the stiffness of the rail, but that of the seat in addition, for they would both have to bend together, and the seat being supported at both ends, the amount of the depression against these two resisting forces would be very small.

Although the accompanying illustration represents the preferred type or form of my invention, yet the parts may be modified to suit the views or appliances at command of the engineer.

I claim herein as new and of my invention—

The railroad chair composed of the seat C, having the pendent ribs or flanges C″ C‴, in the described combination with the strap F, and gib and key D E, or their equivalents, for the purposes set forth.

In testimony of which invention I hereunto set my hand.

N. HEADINGTON.

Witnesses:

GEO. H. KNIGHT,

JAMES H. LAYMAN.