

N. Headington.

Railroad-Rail Fastening.

N^o 73529

Patented Jan. 21, 1868.

Fig. 4.

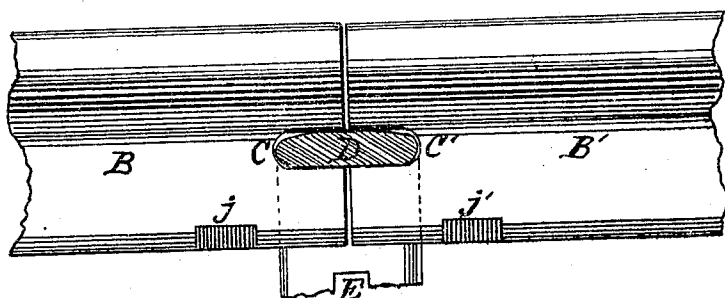


Fig. 5.

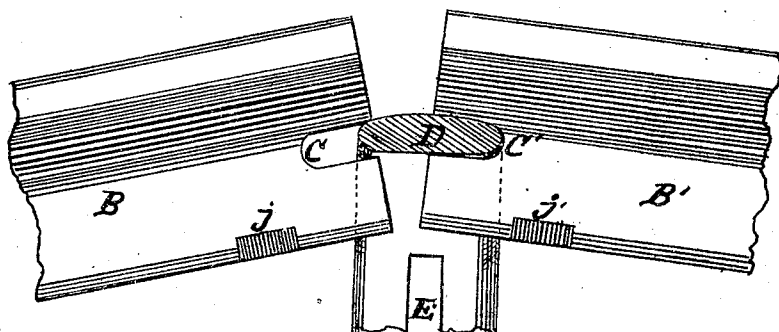
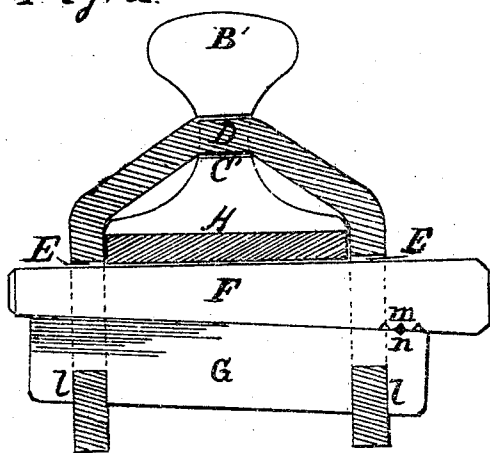


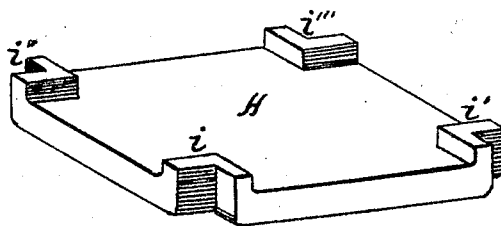
Fig. 2.



Witnesses

James H. Layman.
Frank Bellwood

Fig. 3.



Inventor.

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United States Patent Office.

NICHOLAS HEADINGTON, OF CINCINNATI, OHIO.

Letters Patent No. 73,529, dated January 21, 1868.

IMPROVED RAILROAD-RAIL FASTENING.

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

TO WHOM IT MAY CONCERN:

Be it known that I, NICHOLAS HEADINGTON, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Fastening for the Joints of Railroad-Rails; and I 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.

The design and purpose of my invention are to provide a simple and efficient means of fastening the contem-
poraneous extremities of railroad-rails securely together, so as to render the track of like continuity and smoothness at the joints as in its intermediate portions, and prevent the hammering or pounding of the ends of the rails by the car-wheels, which is so destructive to the track and also to the rolling-stock.

Figure 1 is a perspective view of two rail-ends fastened together by my improved fastening.

Figure 2 is an elevation of the end of one of the rails and a vertical section of the fastening.

(The other figures represent detached parts, and will be explained hereafter.)

A and A' are the sleepers, on each side of and adjacent to the rail-joint. B and B' are portions of two consecutive rails, with notches C C' in their ends, through which the yoke D passes, the ends of the yoke being bent downward, so as to embrace the edges *b b'* of the rail-base, and extend below them in a vertical direction. In the ends of yoke D, below the rail-base, there are slots, E, which receive the key F and a gib, G. Between the key F and the sole or under part of the rail-base is introduced a sole-plate, H, which extends under the ends of both rails to their full width, and has, at its four corners, lugs or projections *i i' i''*, above its upper surface, which enter gains *j j'* in the edges of the rail-base. The form of the lugs shown in the drawings is not essential, but that form is best which possesses the greatest strength, and at the same time can be made with the most facility. Lugs of the form represented, having no incipient break, are stronger than if the corners had been cut and turned up.

Figure 3 is a perspective view of the sole-plate detached.

By the action of the gib and key the sole-plate H is pressed firmly upwards against the soles of both rails, while the yoke D is drawn down with equal firmness upon that portion of the two rail-ends which is below the notches C C', and the rail-ends are thereby strongly griped and held together, and all vertical and lateral displacement of them, with reference to each other, prevented. By the same means, the weight of the cars, as the wheels roll upon the rail-end on which they approach the joint, will be communicated to the opposite and continuous rail-end. The two rail-ends will thus mutually support each other, and the weight of the cars will be distributed upon and borne by the entire portion of the rail extending from sleeper to sleeper, as well where the joints occur as in the intermediate parts of the rail.

To prevent the rails from shifting longitudinally, and some of the joints being thereby opened, there should be notches *k k'* in the edges of the base of the rails, to receive the spikes driven into the sleepers on each side of and adjacent to the joints. The lugs *i i'* of the sole-plate H, by occupying the gains *j j'* in the edges of the base of the rails, assist in securing that result, and prevent the displacement of the sole-plate itself. The gains *j j'* should be somewhat longer than the lugs *i i'*, so as to allow for the expansion and contraction of the rails, resulting from changes of temperature.

The lower ends of the yoke D are held in position by the notches *l l'* in the gib G. The key F, after it has been driven to its place, may be secured against loosening by a nail or piece of wire, *m*, driven into the aperture formed by a notch, *n*, across the upper edge of the gib, and one of a series of notches across the lower edge of the key, or by making saw-teeth indentations across the upper edge of the gib and the lower edge of the key, so that they will fit into each other when the key is driven home. Which of these methods will be the most convenient must be determined by practice.

Figure 4 represents a transverse section of the yoke D, where it passes through the notches C C' in the rail-ends. The notches C C' are of the same width throughout, and their inner extremities are semicircular in form. Along the centre or middle line of the yoke D it is made of a thickness equal to the width of the notches C C', so that the ends of the portion of the rails above the notches will touch or rest upon it, but the yoke falls off towards its edges, and is thus convex or crowning across its upper surface, and the under parts of its edges are curved, so as to fit the extremities of the notches C C' when the rail-ends touch each other.

The especial object of making the yoke crowning on its upper surface is to facilitate the removal and relay-

ing of a single rail between two other rails in position. The most convenient way of accomplishing this result is to draw the spikes of the rail to be removed, and of one of the rails contiguous to it, and take out the key, gib, and sole-plate of the fastening between them. When this is done, the two adjacent ends of the loosened rails should be lifted up vertically, as shown in Figure 5, until they separate sufficiently for one of them to clear the edge of the yoke; the yoke may then be slipped out of the notch in the other rail, and the rail to be removed may be shifted longitudinally until it clears the yoke at its other end, and then lifted from its place.

The process of laying a single rail between two others in position will be the reverse of that just described.

It is not essential to the efficiency of my improved fastening that the two sleepers adjacent to the joint should be laid nearer together than the sleepers in other parts of the track, but to compensate for any accidental imperfection in the workmanship or material of the fastening, and at the same time afford partial relief from whatever strain will come upon it, this course is recommended.

A modification of my improved fastening may be made by having the notches C C' on the top of the rail-ends, instead of through their web, in which case the yoke D would pass over the notches and form a part of the tread of the rail. But while this modification may possess some advantages, a fastening of the form represented in the drawings can be made more easily and with less iron, and for these and other reasons, which will readily suggest themselves, is preferable.

I claim herein as new, and of my invention—

1. In the described combination with a sole-plate and keying-device beneath the rail-ends, I claim the yoke D, occupying the notches C C' in the rail-ends, substantially as and for the purpose set forth.

2. The sole-plate H, constructed with the upturned corners or lugs *i*'' *i*''' and *i*''', for the purpose above explained.

In testimony of which invention, I hereunto set my hand.

NICHOLAS HEADINGTON.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.