

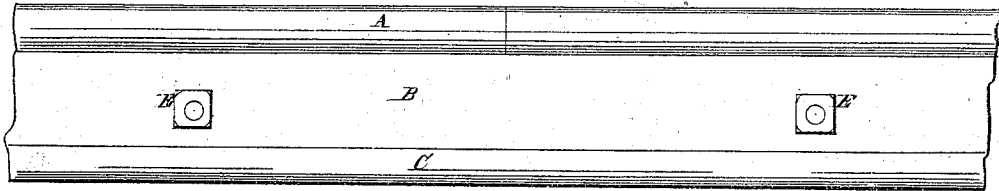
**J. MAITLAND.**

**RAILWAY RAIL.**

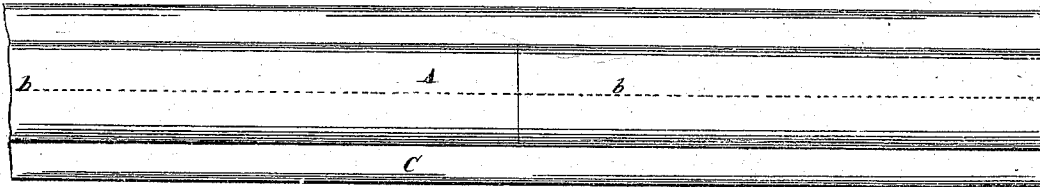
No. 120,295.

Patented Oct. 24, 1871.

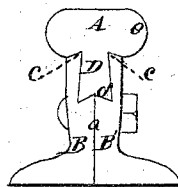
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

JOHN MAITLAND, OF NEWBURG, OHIO.

## IMPROVEMENT IN RAILWAY RAILS.

Specification forming part of Letters Patent No. 120,295, dated October 24, 1871.

*To all whom it may concern:*

Be it known that I, JOHN MAITLAND, of Newburg, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Railway Rails, of which the following is a description, reference being had to the accompanying drawing making part of this specification.

Figure 1 is a side view of the rail and splice. Fig. 2 is a top view. Fig. 3 is an end view.

Like letters of reference refer to like parts in the different views.

The nature of this invention relates to a railway rail; and the object thereof is to so construct said rail that it shall consist of three sections, the neck and base of the rail being longitudinally and vertically divided into two sections, forming thereby two parts, and the head of the rail a third, and which is connected to the neck of the rail by a dovetailed joint, as and for a purpose hereinafter described.

In the drawing, Fig. 1 represents a side view of said rail, of which A is the head, B the neck, and C the base. The neck and base of the rail are divided longitudinally through the center, as indicated by the line *a* and the dotted line *b*, Fig. 2, thereby making two vertical longitudinal sections, B B', of the neck and base of the rail. The upper inner edge of each section B B' is rabbeted out at such an angle that when the two sections are placed together the rabbets form a dovetailed groove of the peculiar shape shown in the end view, Fig. 3, in which it will be seen that the bottom of the groove forms an acute angle with each side, said bottom being raised along the line of its center. It will also be seen that the upper edges of the rabbets are cut at an angle from the inner side outward and downward, as shown at *c*, the purpose of which will presently be shown. The head of the rail, which is of the ordinary shape, is constructed with a tongue or feather, D, Fig. 3, of the shape and size to fit in the dovetailed groove formed in the neck or web of the rail, as above described. The two sections B B' of the rail are secured to each

other by means of bolts E, whereby they are drawn closely against the sides of the tongue or feather D, by which means is made a strong and durable connection of the head to the web of the rail.

The advantages of a rail thus constructed consist in its being in part more durable than a solid one, as the head, when too much worn to be of further service, can be removed and a new one introduced in its place. The neck and foot of the rail, not being injured by wearing, is retained in use, and can thus be continued to do service for several heads. The peculiar manner of connecting the head to the web of the rail is such as to give great strength to the joint, for the head cannot become disconnected therefrom by lateral pressure that may be exerted against it, as the dovetailed feather or tongue will prevent it from being drawn out from the groove, and the tendency of the upper edge of the groove is to draw close under the head in consequence of the outward and downward angle given to it. Should one side of the head be pressed upon strongly—for instance, the side *e*—it cannot be turned from its position, as the corner *d* of the tongue will prevent it from being lifted upward, and the inclined edge *c'*, upon which one side of the head rests, will support it and draw close into the angle formed by the under side of the head and side of the tongue, therefore the relative position and the integrity of the combination of the three sections composing the rail will be preserved.

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

A railway rail, consisting of the sections B B', having a dovetailed groove, as described, and beveled edge *c c'*, head A provided with a tongue or feather, D, of the shape and size to fit into said groove, substantially as and for the purpose set forth.

JOHN MAITLAND.

Witnesses:

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(120)