(No Model.)

E. NORTON.

RAIL JOINT.

No. 588,596. Patented Aug. 24, 1897.

Fig. 1.

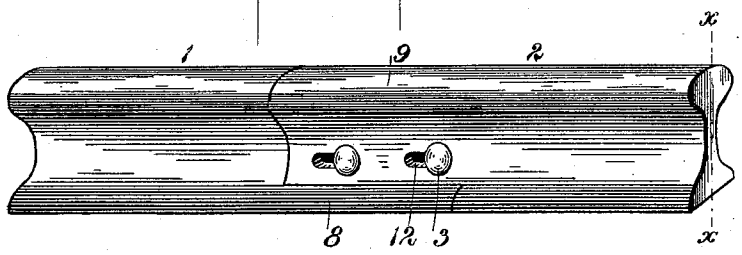


Fig. 2.

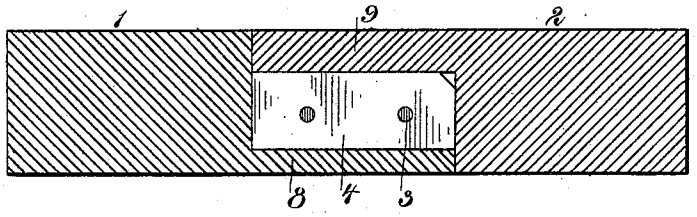


Fig. 3.

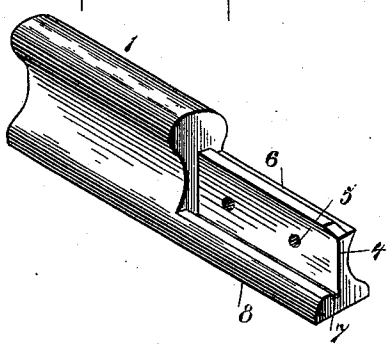
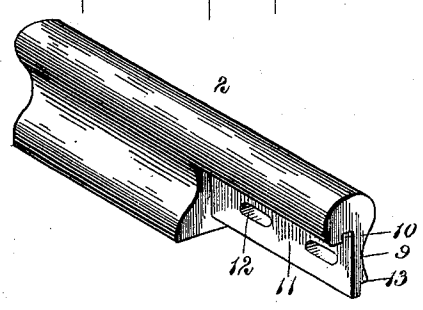


Fig. 4.



WITNESSES

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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 588,596, dated August 24, 1897.

Application filed February 4, 1897. Serial No. 621,958. (No model.)

To all whom it may concern:

Be it known that I, EDWARD NORTON, a citizen of the United States, residing at Lumberton, in the county of Pearl River and State of Mississippi, have invented certain new and useful Improvements in Rail-Joints; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in rails, and has more particular relation to rail-joints.

The invention consists of certain novel constructions, combinations, and arrangements of parts, all of which will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a perspective view of the adjoining ends of two rails constructed according to my invention. Fig. 2 represents a vertical transverse section taken on the line *x x* of Fig. 1. Fig. 3 represents an enlarged detail perspective view of the end of one rail, and Fig. 4 represents a similar view of the end of the adjoining rail.

1 and 2 represent the respective rails, and 3 the connecting-bolts. The rails 1 and 2 are each formed at one end with a vertical web 4, having bolt-apertures 5 and a shoulder 6. These ends of said rails are further formed with horizontal grooves 7, formed in their extended bases 8. Said rails 1 and 2 are each formed at their opposite ends with an extended tread 9, having a horizontal groove 10 and a pendent web or flange 11, formed with elongated slots 12 and a shoulder 13, the base portions of these ends of the rails being cut away.

It will be observed from the foregoing description that when the ends of the rails 1 and 2 are applied together the lower edge of the web 4 will enter the groove 7, while the upper edge of the web 4 will enter the groove 10 and thus prevent any lateral movement of the rails one upon the other. At the same time the shoulder 13 will rest firmly upon the extended base and the shoulder 6 against the extended tread. By these peculiar forms the adjoining ends of the rails are locked firmly together, and the rail presents an unbroken contour. In order to further secure said rails in position, the bolts 3 are passed through the apertures 5 and slots 12 and secured in position by suitable nuts, the office of said slots 12 being to permit the expansion and contraction of the rails because of the varying temperatures to which they are subjected.

It will be observed from the foregoing description that the respective locking ends of my improved rails are so constructed that when applied together they present the appearance of an unbroken rail and at the same time are firmly secured together without the employment of fish-plates or any other auxiliary means other than their own construction and the connecting-bolts.

While the construction of my invention may necessitate more work in the manufacture of the rails themselves, it at the same time obviates the necessity of using fish-plates or chairs, and, further, dispenses with the use of a great number of bolts, two only being used for each joint.

With rails constructed according to this invention the danger of a loose joint is reduced to a minimum, if not altogether avoided, as the peculiar construction of the respective webs of the rails entering the grooves of the adjoining rails firmly locks said rails against any possible lateral movement independent of each other.

The invention further distributes the joint along an extended portion of the rail, the joint through the tread being at one point and that through the base at another. Any danger of the weakening of the rail because of this peculiar construction is therefore avoided and a firm, strong, and durable rail-joint provided.

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

1. The combination with one rail having a vertical apertured web, and an extended horizontal portion having a horizontal groove formed therein, of another rail also provided with a vertical apertured web and a horizontal extension having a horizontal groove formed therein; the construction being such that when the two rails are applied together the web of one enters the groove of the horizontal extension of the other, whereby securing-bolts may be passed through the web, and

the horizontal portions also supported and braced in position, substantially as described.

2. The combination with rails having an extended base formed with a horizontal groove, of a vertical web mounted on said extended base, another rail having an extended tread formed with a horizontal groove, an apertured web pendent from said tread; the construction being such that the vertical web of one rail enters the horizontal groove of the adjoining rail so as to bring the apertures of the webs into coinciding positions, whereby securing-bolts may be passed through the same, substantially as described.

3. The combination with a rail having an extended base formed with a groove and a vertical apertured web having a shoulder at its upper end, of another rail having an extended tread formed with a groove and a vertical apertured web having a shoulder at its lower end; the construction being such that the vertical web of one rail enters the vertical groove of the other rail and the shoulder of one web abuts against a portion of the opposing rail, substantially as described.

4. The combination with a rail having an extended base formed with a horizontal groove and a vertical apertured web, of another rail having an extended tread and formed with a horizontal groove, and a vertical web having elongated slots and bolts adapted to be passed through said slots and the apertures of the adjoining web; the construction being such that the web of one rail enters the groove of the adjoining rail, whereby the tread and base portions are supported and braced in position, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EDWARD NORTON.

Witnesses:
GEORGE BOUNDS,
LOUIS HAGBERG.