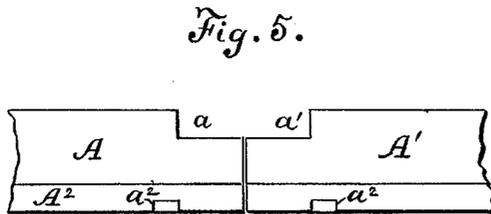
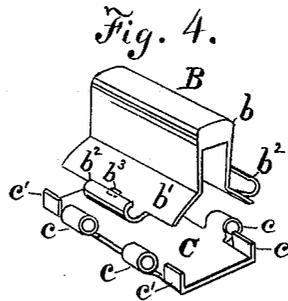
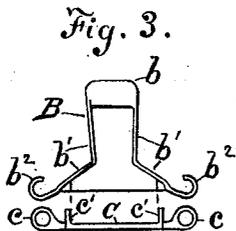
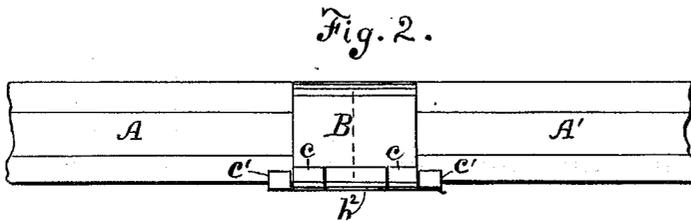
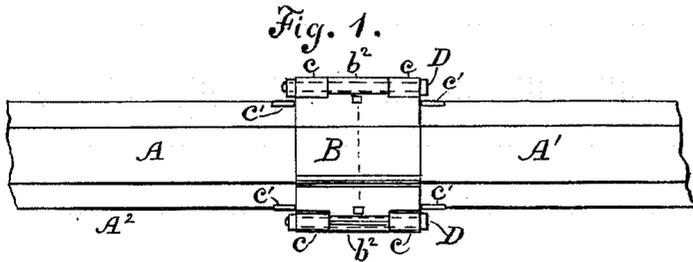


F. M. MORGAN.  
Rail-Joints.

No. 206.684.

Patented Aug. 6, 1878.



Witnesses:  
H. A. Daniels -  
J. B. Houlderby

Inventor:  
Francis M. Morgan  
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Attorneys.

# UNITED STATES PATENT OFFICE.

FRANCIS M. MORGAN, OF ELIZABETH CITY, NORTH CAROLINA.

## IMPROVEMENT IN RAIL-JOINTS.

Specification forming part of Letters Patent No. 206,684, dated August 6, 1878; application filed July 9, 1878.

### *To all whom it may concern:*

Be it known that I, FRANCIS M. MORGAN, of Elizabeth City, in the county of Pasquotank and State of North Carolina, have invented certain new and useful Improvements in Railway-Rail-Joint Fastenings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

This invention has for its object to furnish a railway-rail-joint fastening which will hold the ends of the joining-rails firmly together, and will prevent or obviate the crushing of the ends by the pounding of the engine.

It consists in having the ends of the joining-rails mortised and provided with a cap, the sides of which extend to the outer edge of the base-flange of the loops or eyes, and in having a base-plate which is placed under the rail, and has its outer edges provided with loops or eyes arranged to coincide with the loops or eyes in the cap, so that the said cap and base-plate may be secured together around the rail by a bolt passed through the said eyes or loops, all of which will be hereinafter set forth.

In the drawings, Figure 1 is a plan, and Fig. 2 is a side elevation, of a rail with my improved fastener applied thereto. Fig. 3 is an end view, and Fig. 4 is a perspective, of the parts of fastener, said parts being slightly separated, and Fig. 5 is a side elevation of a rail mortised to receive my fastener.

A A<sup>1</sup> are the rails, having their joining ends cut down with the half-mortises a a<sup>1</sup>, while on the sides of the base-flanges A<sup>2</sup> there are formed the mortises a<sup>2</sup>, adapted to receive short flanges turned up from the base-plate, hereinafter described. B is the cap or upper plate of my fastener. It has the solid head b, which fits into the half-mortises a a<sup>1</sup> and over the joint between the rails A A<sup>1</sup>, and fills up said mortises flush with the top of said rails, making a

continuous rail over said joint, as shown. Its wings or side plates b<sup>1</sup> extend downward, and fit closely to the sides of the rails and to the base-flanges A<sup>2</sup>. The wings b<sup>1</sup> have a part of their lower edges extended and turned up, so as to form the loops b<sup>2</sup>, and they may be provided with holes b<sup>3</sup>, through which may be driven spikes into the tie below. C is the base-plate, placed under the joint of the rails A A<sup>1</sup>, and corresponds in length to the length of the cap B. It has formed on its edges the eyes c c, which are so formed and arranged as to join to and coincide with the loops or eyes b<sup>2</sup> on the cap B, so that the bolt D may be inserted and the cap and base-plate securely locked together around the rail.

The base-plate has turned upon its edges the short flanges c' c', which rest in the side mortises a<sup>2</sup> on the rails A A<sup>1</sup>. These flanges prevent the rails from being drawn endwise out of the fastening, while at the same time they permit the well-known expansion and contraction of the rails.

This device, when applied as hereinbefore indicated, locks the rails firmly together, forms a continuous rail over the joint, and prevents the depression of the end of one rail below the end of the other, and thereby obviates many of the objections to joint-fasteners of ordinary construction.

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

The combination, with the rails A A<sup>1</sup>, having the mortises a a<sup>1</sup> on their joining ends, of the cap B, having the solid head b and the loops or eyes b<sup>2</sup>, and the base-plate C, having the eyes or loops c c and bolt D, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

FRANCIS M. MORGAN.

Witnesses:

PERRY B. TURPIN,  
ROBERT H. LACEY.