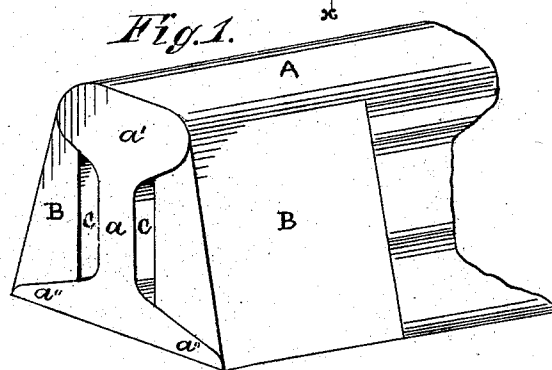
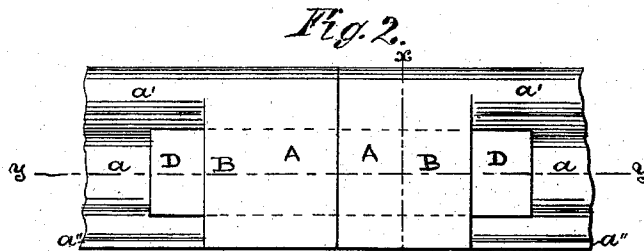
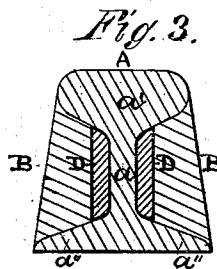
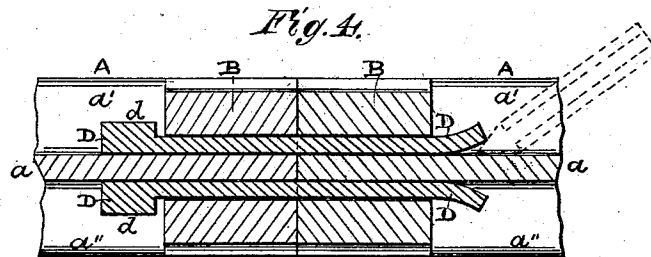


C. BARKER.
RAILWAY RAIL JOINT.

No. 177,919.

Patented May 30, 1876.



Witnesses:
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W. L. Annay

Inventor:
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UNITED STATES PATENT OFFICE.

CHARLES BARKER, OF YATES CITY, ILLINOIS.

IMPROVEMENT IN RAILWAY-RAIL JOINTS.

Specification forming part of Letters Patent No. **177,919**, dated May 30, 1876; application filed November 6, 1875.

To all whom it may concern:

Be it known that I, CHARLES BARKER, of Yates City, county of Knox, and State of Illinois, have invented certain new and useful Improvements in Railway-Rail Joints; and I do hereby declare that the following is a full, clear, and exact description thereof, 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.

My invention relates to improvements in railway-rail joints; and the invention consists, first, in attaching plates or blocks to the sides and ends of rails, in such manner as to sustain the head of the rail, and also form mortises for the reception of tenon-pieces or keys; and, second, in the use of tenon-pieces or keys of the nature of dowels, and which enter the aforesaid mortises, and hold the rails in correspondence.

Figure 1 in the accompanying drawings is a perspective view of one end of a railway-rail embodying the first part of my invention. Fig. 2 is a side elevation of the abutting ends of two railway-rails embodying my invention. Fig. 3 is a transverse sectional view of Fig. 2 on the line *x x*; and Fig. 4 is a horizontal sectional view of Fig. 2 on the line *y y*.

Referring to the parts by letters, letters A represent the ends of two abutting railway-rails, consisting each of a web, *a*, head *a'*, and bottom side flanges *a''*. B is a block or plate extending from the side head *a'* of the rail to the bottom flange *a''*, and so placed as to leave a mortise or keyway, C, between the plate B and the web *a* of the rail.

The plates B may extend but a few inches longitudinally on the rail, and should, preferably, extend laterally, as shown in the drawings, to the outer extremity of the head *a'* and of the flange *a''*, and may be secured to the rail, as desired, by being formed thereon when the rail is made, by bolting thereon, or, preferably, by welding by means of dies in a drop-press, or by other practical means.

D is a key or tenon-piece, made to fit accurately the key-seat C, and may be inserted in its seat C after the rails A are placed in position by driving from either end of the continued keyway C, formed by abutting ends of the rails.

The key D may have a head, *d*, on one end, and, to prevent its withdrawal by ordinary means, may be withdrawn a short distance, and a cold-chisel or other sharpened instrument driven between its end and the web of the rail, to set its end outward, as shown at one side of Fig. 4, to allow of expansion and contraction of the rails.

It will be evident that the key D, fitting accurately the key-seats C on all sides, will retain the rails in correspondence or line, and give great rigidity to the joint, and strengthen it against deflection, preventing all tremor of the rail at the joint, and any possibility of opening or spreading, as is usual with all ordinary fastenings. The keys C allow the usual contraction and expansion of the rails from change of temperature, and may be removed for removing or changing the rails. The blocks B, in addition to their use in forming the key-seats, will also prevent the sides of the rail-head at the ends of the rails battering down by the action of the car-wheels, as is usual, and thus protect their wearing-surface at the most needed part.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is the following claims:

1. As a new article of manufacture, a railway-rail, having blocks B at its ends, extending from the head to the base of the rail, so as to leave a keyway, C, between the block and the rail, substantially as and for the purpose specified.

2. The keys D, arranged to operate with and between the rails A, and blocks B, substantially as and for the purpose specified.

CHARLES BARKER.

Witnesses:

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