J. B. JOHNSTON.

Railway Rails.

No. 142,701. Patented September 9, 1873.

Fig. 1.

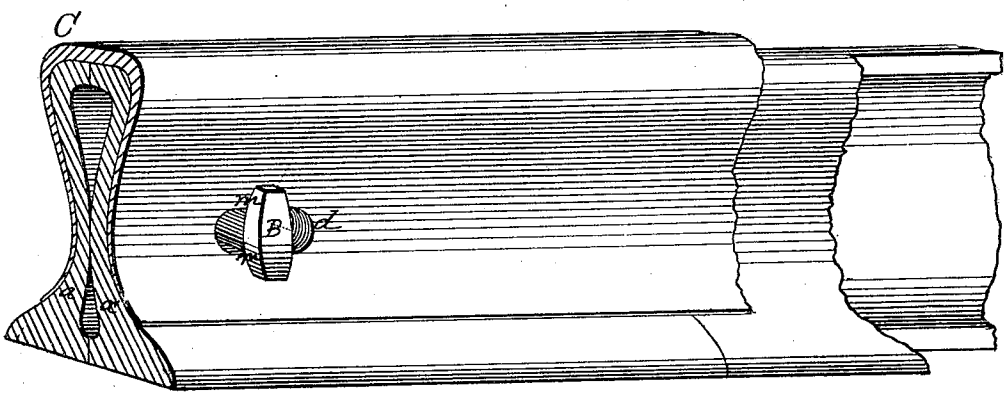


Fig. 2.

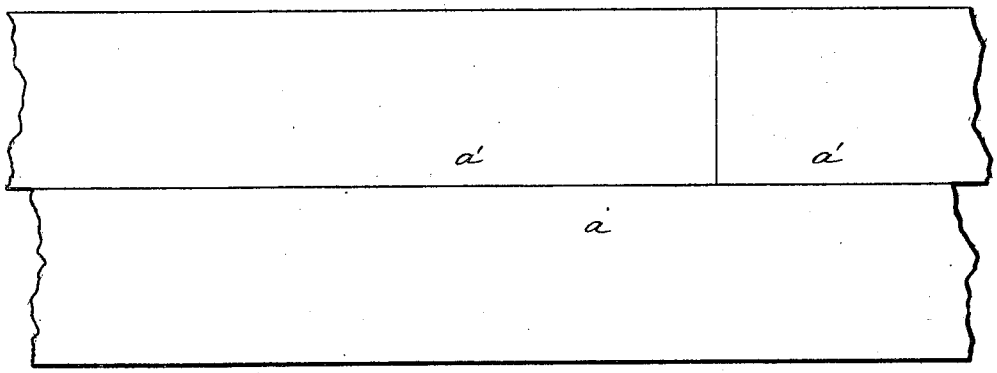
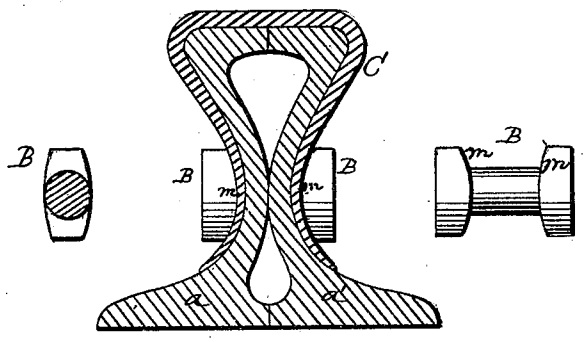


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES B. JOHNSTON, OF NEW YORK, N. Y.

IMPROVEMENT IN RAILWAY-RAILS.

Specification forming part of Letters Patent No. **142,701**, dated September 9, 1873; application filed July 12, 1873.

To all whom it may concern:

Be it known that I, JAMES BOORMAN JOHNSTON, of New York city, in the county and State of New York, have invented a new and useful Improvement in Railroad-Rails; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a side and end view of the rail in perspective. Fig. 2 is a bottom-plan view of the same; and Fig. 3 is a vertical cross-section of the rail, accompanied by a side view and cross-section of the fastening-bolt.

Similar letters of reference in the several figures denote the same parts.

This invention, devised chiefly as an improvement upon the railroad-rail patented to me October 1, 1872, No. 131,880, antedated September 30, 1872, consists in a new and improved method of fastening together the several parts of a compound continuous rail, as I will now proceed to describe.

In the drawings, *a a'* C represent the rail for which Letters Patent of the United States were granted to me, as aforesaid. Transversely through said rail, or through the several parts thereof before they are put together, I make a slot, *d*, sufficiently elongated to allow for contraction and expansion. I then form a double-headed bolt, B, as shown in Fig. 3, the heads of which are long enough to extend across the slot *d* and lock against the metal on each side of the slot, but are so narrow that when turned at right angles from that position they will readily pass through said slot. The bolts are first heated, then introduced through the slots till their heads project on each side of the rail, then turned so that the head extends across the slot, as described, and then shrunk to place, firmly locking all the parts of the rail together. The proximate faces of the bolts are rounded to fit the sides of the rail, as shown, and may, in connection with the part C at the edges of the slot, be roughened, so as further to prevent the possibility of their accidental turning, though, in practice, this will not be found necessary if they are properly fitted.

Having thus described my invention, what I claim as new is—

The railway-rail, composed of the parts *a a'* C, having an elongated slot, *d*, said parts being connected together by the double-headed bolts B, having rounded inner faces or shoulders conforming to the curvature of the rail, when inserted in a heated state, and turned one-quarter round, thus forming a ready means of connection without the use of nuts, screws, locking devices, or swaging, substantially as specified.

JAS. B. JOHNSTON.

Witnesses:
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