

(No Model.)

R. A. BALDWIN.
RAIL BOND.

No. 545,869.

Patented Sept. 10, 1895.

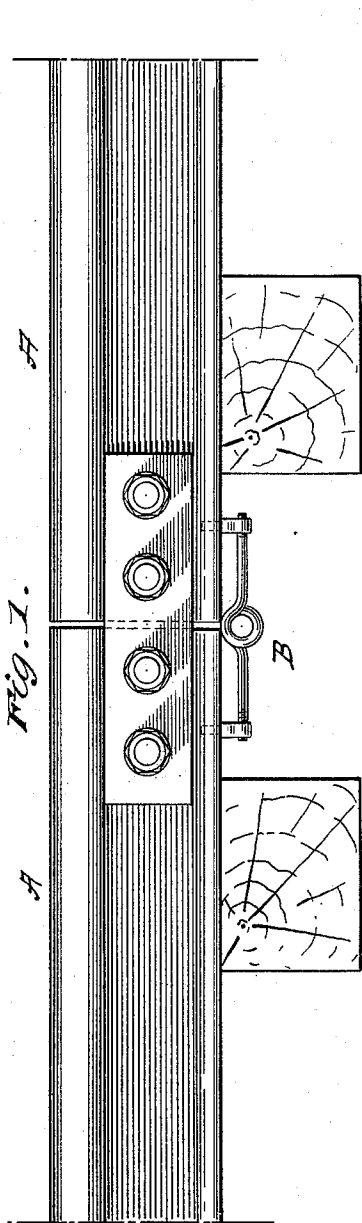


Fig. 2.

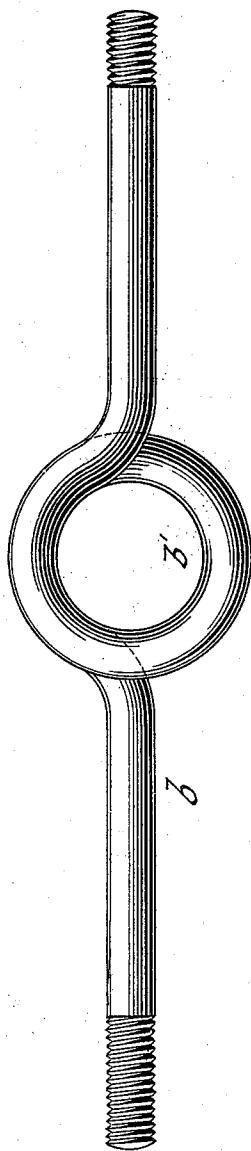
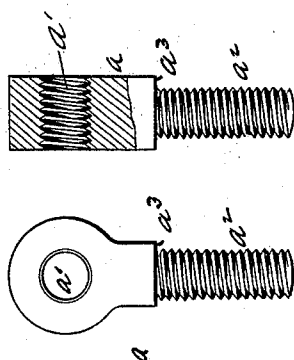


Fig. 3.



Fig. 4.



WITNESSES:

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ROLLIN A. BALDWIN, OF SOUTH NORWALK, CONNECTICUT, ASSIGNOR TO
HIMSELF AND HEAVLON ROWLAND, OF SAME PLACE.

RAIL-BOND.

SPECIFICATION forming part of Letters Patent No. 545,869, dated September 10, 1895.

Application filed January 24, 1895. Serial No. 536,032. (No model.)

To all whom it may concern:

Be it known that I, ROLLIN A. BALDWIN, a citizen of the United States, residing at South Norwalk, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Rail-Bonds, of which the following is a full, clear, and exact description.

This invention relates to rail-bonds, the object being to provide a bond which will insure a perfect electrical connection between the rail-lengths of a railway-track, and which may be easily applied, inexpensive, and not liable to become deranged or detached from its effective operative position.

The invention consists of the device hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a side view of a rail-joint, showing the bond applied thereto. Fig. 2 is a view of the connecting-conductor detached. Fig. 3 is a view of the connecting-conductor, also showing in dotted lines its distorted position when in use; and Fig. 4 is two views of a plug terminal by which the connecting-conductor is attached to the rails.

Two abutting ends of rails are shown at A in Fig. 1. The joint is shown bridged by my improved bond B. The bond itself consists of three parts—two plugs *a a* and a connecting-conductor *b*. The plugs each consist of a head having a threaded opening *a'* and an externally-threaded tail piece or projection *a²*, the thread ending at a shoulder *a³*.

The connecting-conductor consists of a rod or heavy stiff wire, preferably bent into a loop *b'* at its middle portion and having its ends screw-threaded, both in the same direction, to fit the holes *a'* in the plugs and with the thread longer at one end than at the other. The loop is to allow for expansion, contraction, and any other slight movement of the rails. It also serves another purpose, to be presently described. In each rail end a hole is to be drilled and tapped to receive the plugs *a a*. These are to be a slightly less distance apart than the length of the conductor *b*. The plugs are first screwed into the rails until the shoulders *a³* strike. Then by turning one of the plugs, so that its opening *a'* is out of line

with the opening in the other plug, the end of the connector having the longer thread is screwed into and through the opening *a'* until the other end of the connector can be swung into line with the opening in the other plug. Then by reversing the twisting movement of the connector it is drawn out of the first plug and into the second a distance far enough to leave both ends projecting slightly beyond each plug.

The plugs are to be located with the centers of their openings in a direct line with each other and on account of the loop in the connector and the thickness of the wire or rod of which it is made the ends beyond the loop will be in parallel planes instead of coincident planes. Hence when the ends of the connector are adjusted to the two plugs they must be bent and put under tension, as indicated in the dotted lines, Fig. 3. This tension creates a binding in the screw-threads and secures the connector against backward twisting. This backward twisting is also further prevented by making the loop of sufficient diameter to just strike the rail at each half rotation. Thus, to be turned backward, will require sufficient force to spring it past the rail. It will be observed that all joints in this connector are made by screw-threads, thus providing large contact-surface and, when fitting closely, preventing corrosion of surfaces. The plugs cannot be removed unless they are twisted, and this cannot happen because the connector prevents twisting. The connector is held by the loop and the distortion.

Having thus described my invention, I claim—

1. A rail bond consisting of two plug supports adapted to be attached to the rails by screw threads, in combination with a connecting conductor consisting of a stiff rod or wire threaded at both ends into the respective plugs, substantially as described.

2. A rail bond consisting of two plug supports adapted to be attached to the rails, in combination with a connecting conductor consisting of a stiff rod or wire threaded at both ends into the respective plugs and provided with a bend or loop which, when the con-

necter is detached, throws the ends out of line, and necessitates distorting the connector to properly connect it with the plugs.

3. A rail bond consisting of two plug supports adapted to be attached to the rails, in combination with a connecting conductor consisting of a stiff rod or wire threaded at both ends, the two threads being in the same di-

rection and one cut longer than the other, for the purpose set forth.

In testimony whereof I subscribe my signature in presence of two witnesses.

ROLLIN A. BALDWIN.

Witnesses:

FRANK S. OBER,

C. V. EDWARDS.