

(No Model.)

W. H. WIGGIN.  
ELECTRICAL RAIL BOND.

No. 591,516.

Patented Oct. 12, 1897.

Fig. 1.

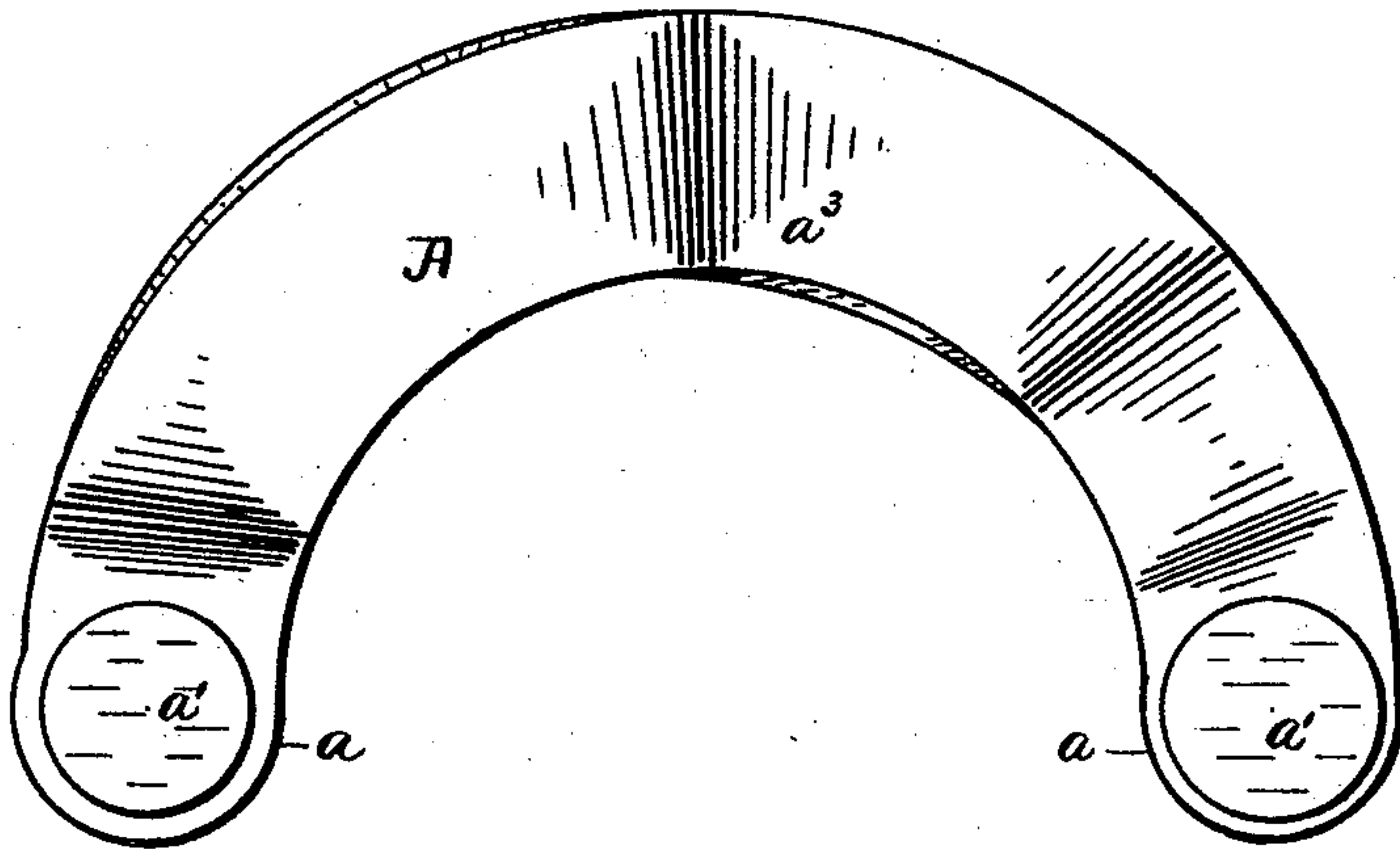
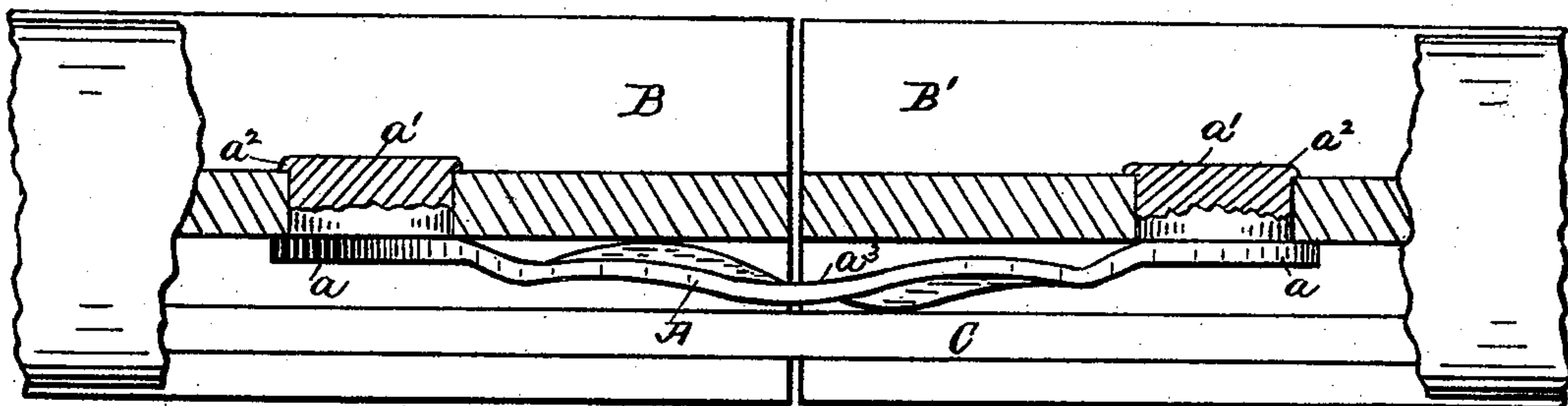


Fig. 2.



WITNESS:

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# UNITED STATES PATENT OFFICE.

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## ELECTRICAL RAIL-BOND.

SPECIFICATION forming part of Letters Patent No. 591,516, dated October 12, 1897.

Application filed April 26, 1897. Serial No. 633,909. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. WIGGIN, a citizen of the United States, residing at Worcester, county of Worcester, State of Massachusetts, have invented certain new and useful Improvements in Electrical Rail-Bonds, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a bond for electrically connecting the meeting ends of rails in an electrically-operated railway; and my invention consists in an electrical rail-bond composed of a flat-sided plate having, preferably, an edgewise bend or curve and carrying at its ends laterally-projecting terminals adapted to seat in and to the web of the rail, and the portion of the plate between the terminal ends having a partial flatwise twist, substantially as hereinafter set forth and for the purpose hereinafter described.

In the drawings, Figure 1 is a side elevation of an electrical rail-bond containing my invention, and Fig. 2 is a sectional plan of the same shown seated to and uniting the meeting ends of railway-rails.

My improved rail-bond is composed of a plate A, preferably of copper or other electrically-conductive material, which plate is flat-sided and preferably has an edgewise curve, as shown in Fig. 1, desirably uniform throughout its length.

At the respective ends  $a$  of the plate, and preferably projecting from the same side face thereof, the terminal studs  $a'$  are provided, adapted to seat in suitable corresponding apertures in the respective meeting ends of rails B B', as illustrated in Fig. 2. These terminal studs may be of any known form desired. Those illustrated in the drawings are simple cylindrical studs adapted to be driven into or otherwise forcibly seated in the rail-apertures and to have their ends projecting beyond the face of the rail-web turned or riveted down thereon, as at  $a^2$ .

The body or portion  $a^3$  of the plate A between the aforesaid terminal ends has a partial flatwise twist, as shown plainly in Fig. 2. It is essential that the said twist in the body

of the plate should be a partial one, and preferably a twist which inclines the faces of the body  $a^3$  something less than about forty-five degrees to the faces of the terminal ends, which latter should desirably be in parallel planes, as shown, as otherwise, and if the twist be substantially greater, the lateral dimension of the bond-body would be so increased as to impair the utility of the bond in carrying out one object of the invention—namely, the seating of the bond between the rail-web and the fish-plate C.

The described twist may be given to the bond by means of suitable dies or analogous tools or in any other known manner.

It is evident that a rail-bond constructed as described may be seated in and to the web of the meeting ends of rails between the same and the fish-plate, as illustrated in Fig. 2, and that the bond will thus be covered and protected by the fish-plate; and it is further evident that the described partial flatwise twist in the bond-body will act to afford a torsional spring action in the bond-body and thus more or less relieve the seated terminals from strain, which would otherwise tend to loosen them in their seats, due to thermometric changes and traffic.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An electrical rail-bond composed of a flat-sided plate, provided on one of its side faces at its respective ends with terminal studs adapted to seat in apertures in the web of the meeting ends of rails, and having a partial, flatwise twist in its central portion or body, between said terminals, substantially as and for the purpose specified.

2. An electrical rail-bond composed of an edgewise-curved, flat-sided plate, provided on one of its side faces at its respective ends with terminal studs adapted to seat in apertures in the web of the meeting ends of rails, and having a partial, flatwise twist in its central portion or body, between said terminals, substantially as and for the purpose specified.

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Witnesses:

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