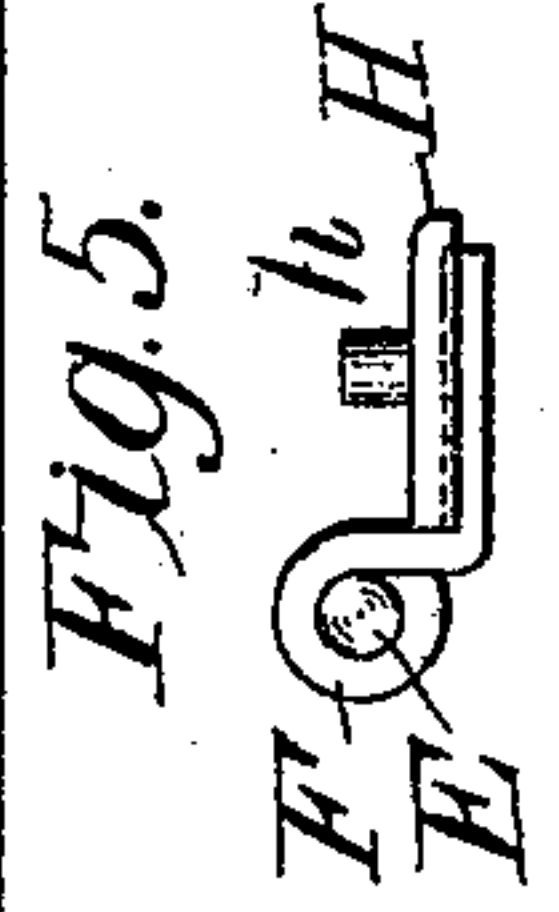
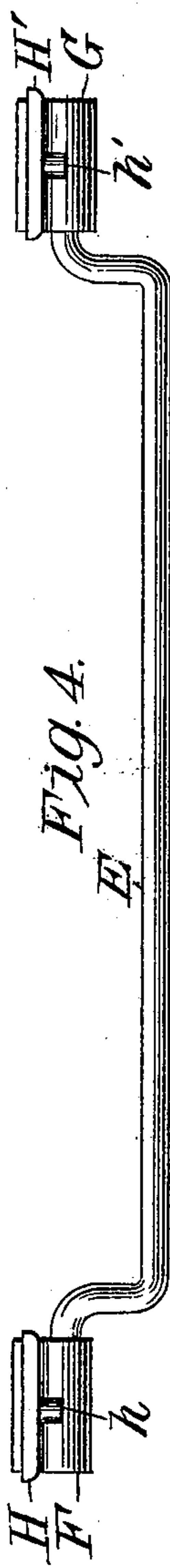
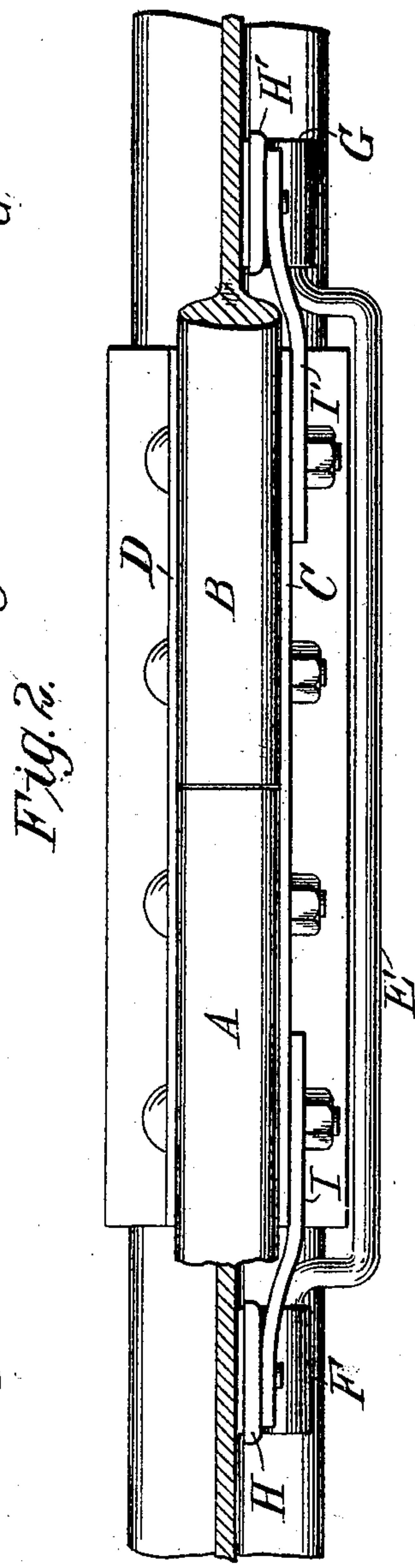
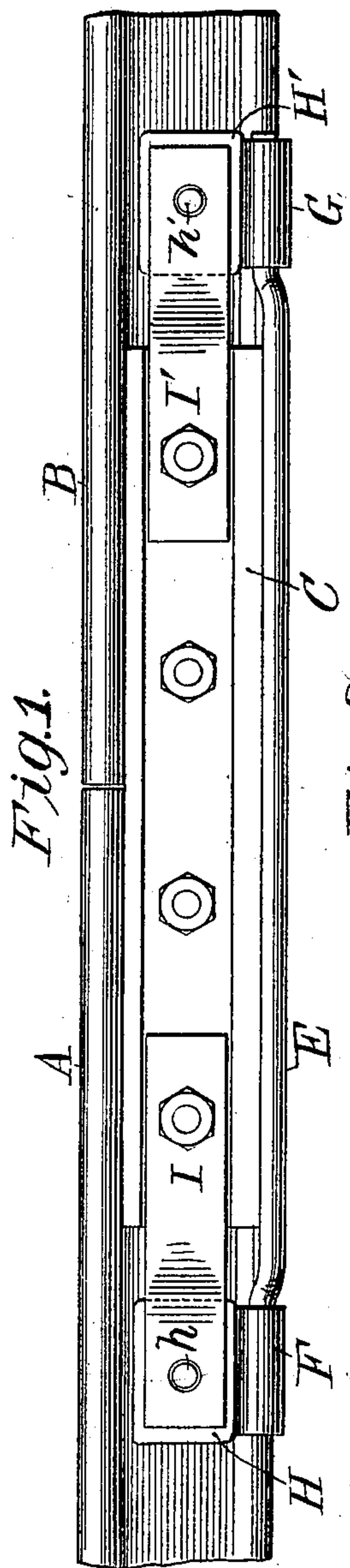


No. 648,086.

Patented Apr. 24, 1900.

C. F. DE REDON.
ELECTRIC RAIL BOND.
(Application filed Aug. 24, 1899.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

CONSTANT F. DE REDON, OF NEW YORK, N. Y., ASSIGNOR TO THE
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ELECTRIC RAIL-BOND.

SPECIFICATION forming part of Letters Patent No. 648,086, dated April 24, 1900.

Application filed August 24, 1899. Serial No. 728,259. (No model.)

To all whom it may concern:

Be it known that I, CONSTANT F. DE REDON, a citizen of the Republic of France, residing at New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Electric Rail-Bonds, of which the following is a specification.

My present invention relates to improvements in rail-bonds; and its object is to provide means whereby a conductor having adequate carrying capacity may be caused to span the ends of adjacent rails and make good electrical contact therewith without being bolted or riveted thereto, whereby the ordinary rail movements under the influence of changes of temperature and the action of the car-wheels will not affect the contacts nor lessen the strength and durability of the bonding device.

I prefer to employ a conductor of copper having a carrying capacity at least equal to that of the rails, and in this instance I show a conductor of this sort somewhat longer than the fish-plates, which conductor after being bent up into line with the fish-plates rests against the webs of adjacent rails and is held in place by powerful springs. This construction permits the movement referred to and is very strong and durable.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of two adjacent railway-rails to which my invention is applied. Fig. 2 is a plan view thereof, the top of the rails being cut away to show the electrical and mechanical connections. Figs. 3 and 4 are respectively side and edge elevations of my bonding-conductor, and Fig. 5 is an end view of the said conductor.

Referring to the drawings by letter, A and B are portions of two adjacent railway-rails. The fish-plates are shown at C and D, and the bonding-conductor at E. To the ends of the said bonding-conductor E are firmly secured bent plates F and G, of some good conducting metal, preferably copper, so as to form practically one piece with the said conductor. On the said plates are secured caps H H', of metal, and a lug or pintle *h h'* is formed on or connected with each of the said caps.

The bending of the conducting-rod E is such as to permit the ends of the said rod or the plates F thereon to rest against the webs of the rails A and B. To hold the bonding-conductor in this position and to press the contact portions F and G firmly against the rail, so as to make good contact, I supply strong springs I I', of steel, and apply them to the fish-plate by means of the last bolt at either end of the said plate. The said springs are provided with openings which pass over the lugs *h h'* and so prevent any displacement of the parts. The springs being thus in place, they can be firmly pressed home by tightening the nuts upon the said fish-plate bolts. In this manner any desired degree of contact can be secured between the ends F and G of the copper conductor E.

Any longitudinal expansion of the rails with relation to the fish-plates or the bonding-conductor is thus easily permitted, while good contact is constantly maintained. The rubbing of the rails upon the contacts during such movement only tends to keep the said contacts bright and insure good connection under all conditions of the weather.

The invention claimed is—

1. The combination with a pair of adjacent railway-rails and a fish-plate joining them, of a bonding-conductor somewhat longer than the fish-plate, and a spring holding the ends of the bonding-conductor against the rails.

2. The combination with two adjacent railway-rails and a fish-plate joining them, of a bonding-conductor extending around the fish-plate into contact with the rails, and a spring holding the ends of the said bonding-conductor against the rails.

3. The combination with two adjacent railway-rails and a fish-plate joining them, of a bonding-conductor extending around the fish-plate into contact with the rails, and a spring extending from the fish-plate to the ends of the said conductor for pressing the same against the rails.

4. The combination with two adjacent railway-rails and a fish-plate joining them, of a bonding-conductor longer than the said fish-plate, and a spring extending from the said fish-plate to the ends of the said conductor for pressing the said ends against the rails.

5. A bonding-conductor suitably shaped to pass from rail to rail around the fish-plate, the said bonding-conductor being provided with contact-terminals of copper and with
5 suitable caps or heads of rigid material, in combination with one or more springs for pressing against the said caps or heads and holding the contact-terminals against the rails.

10 6. The combination with two adjacent railway-rails and a fish-plate joining them, of a

bonding-conductor, the ends of which bear upon the rails, and a spring pressing the said ends against the rails, the said spring being bolted to the fish-plate by one of the usual 15 fish-plate bolts.

Signed at the city, county, and State of New York by me this 4th day of August, 1899.

CONSTANT F. DE REDON.

Witnesses:

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GEORGE H. STOCKBRIDGE.