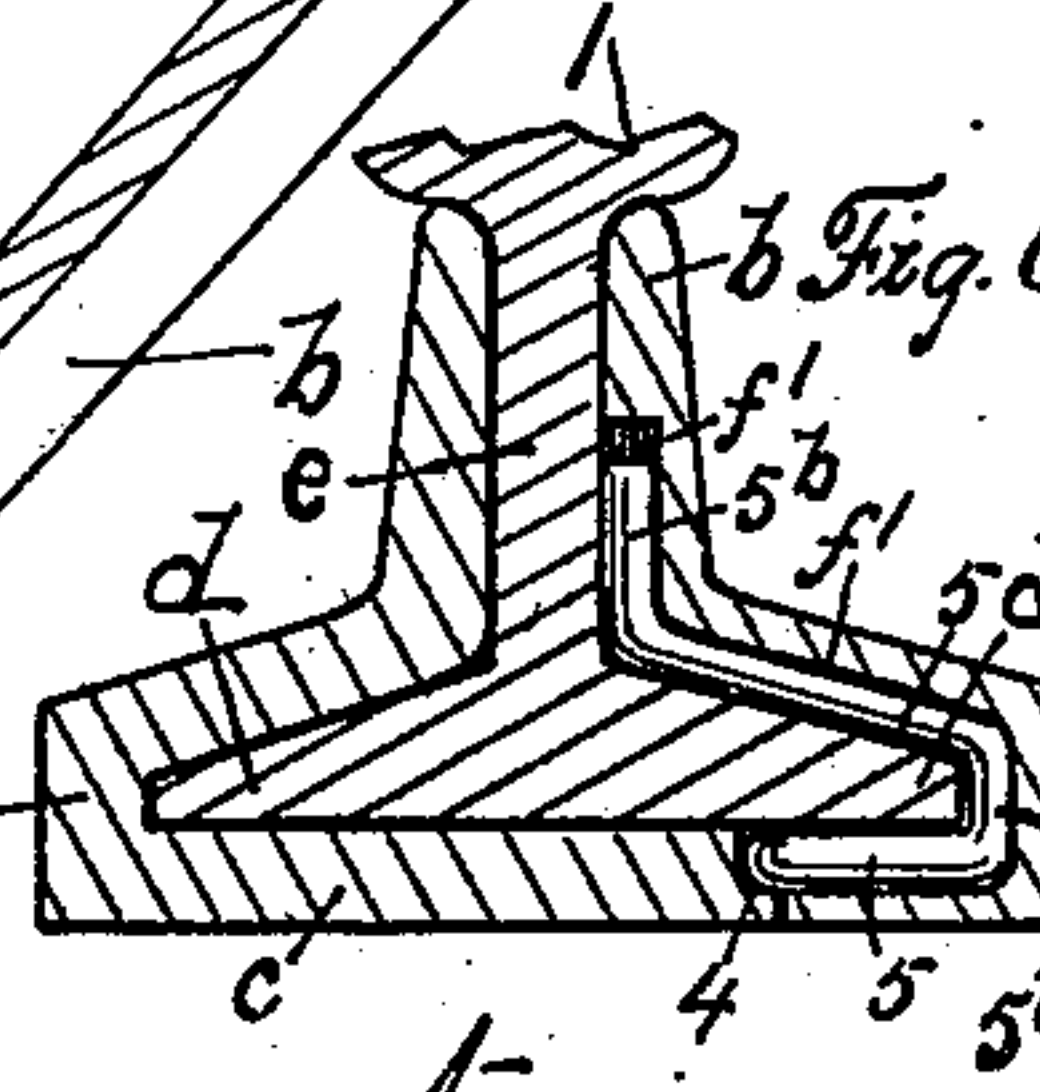
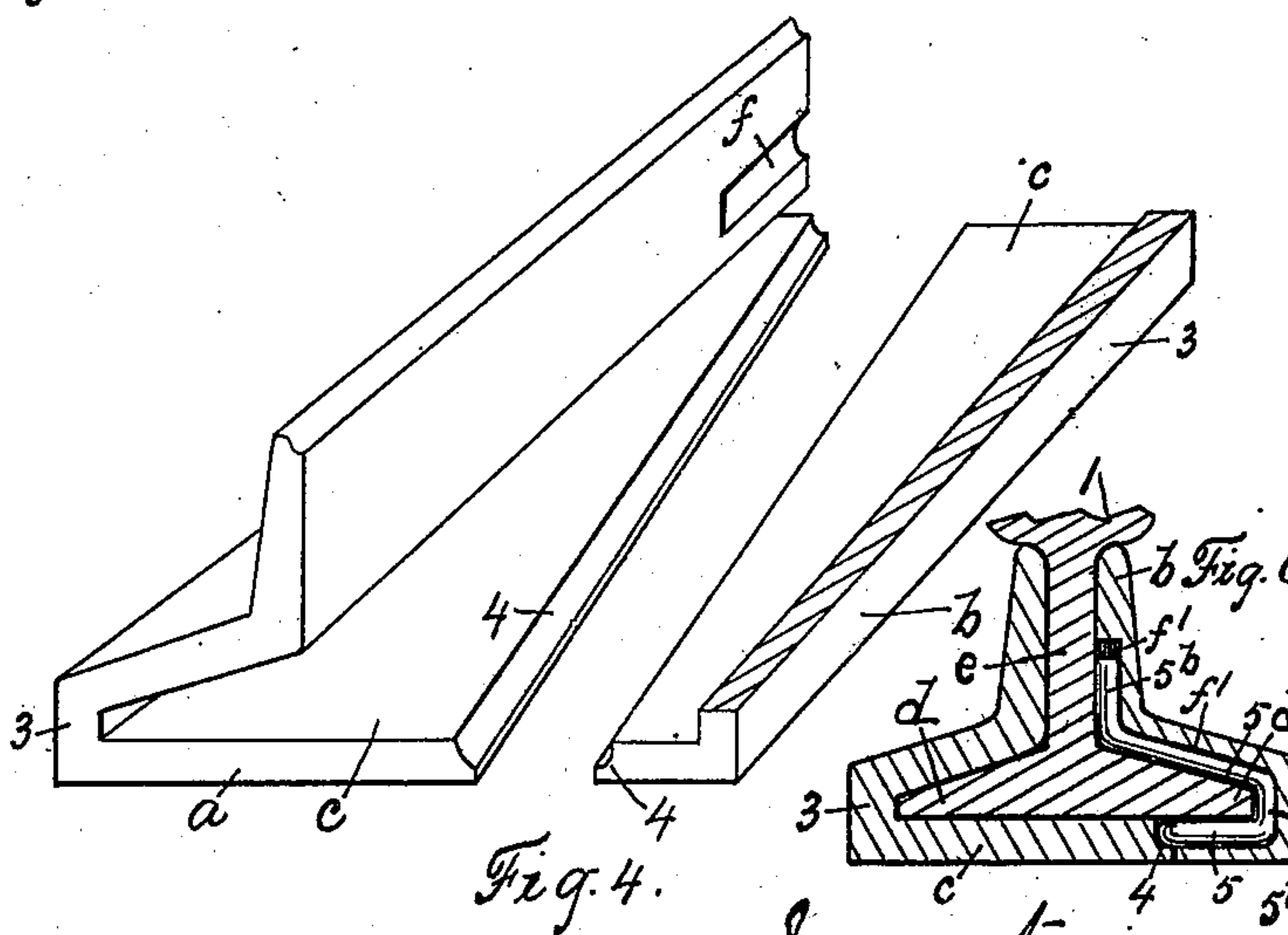
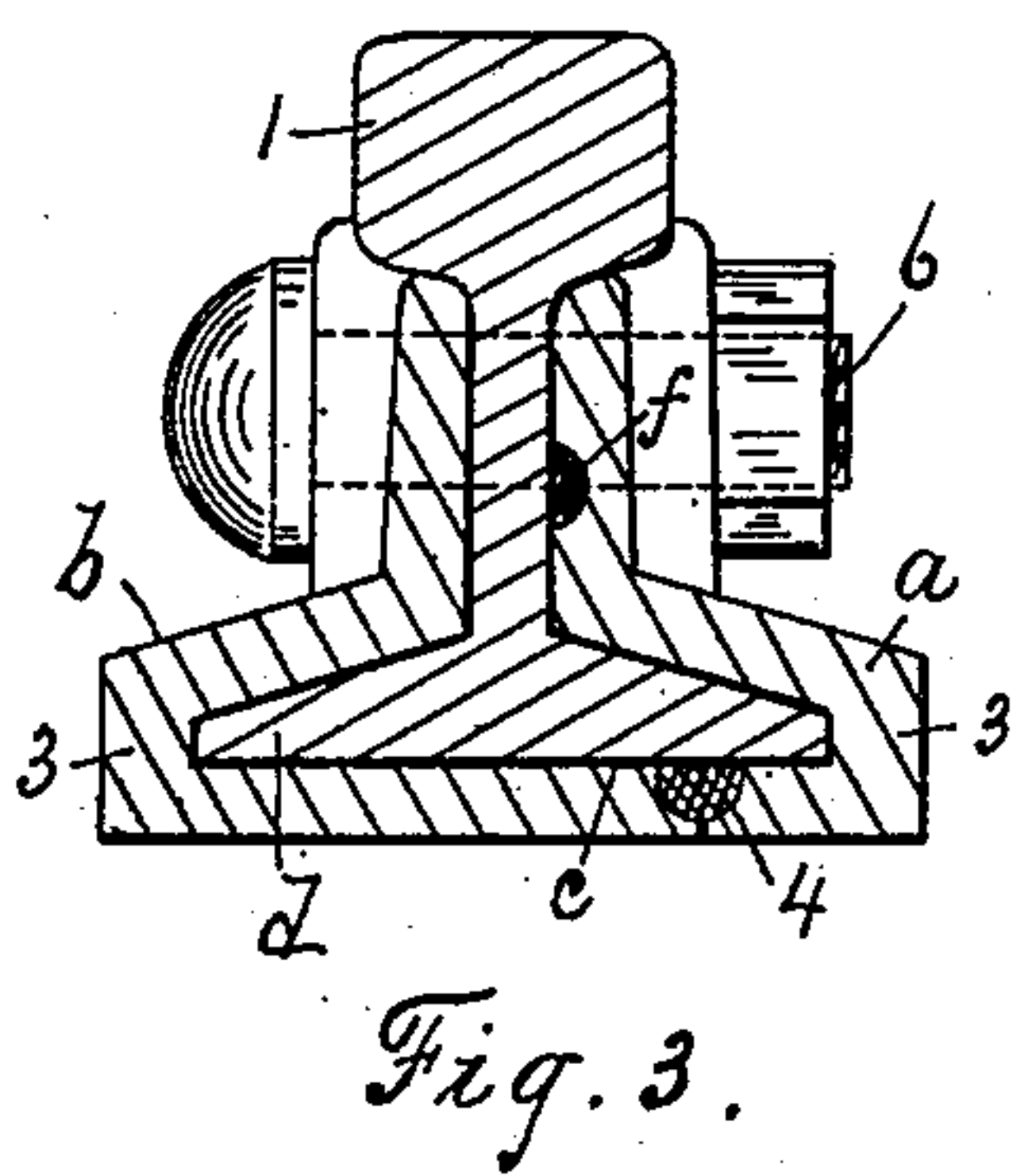
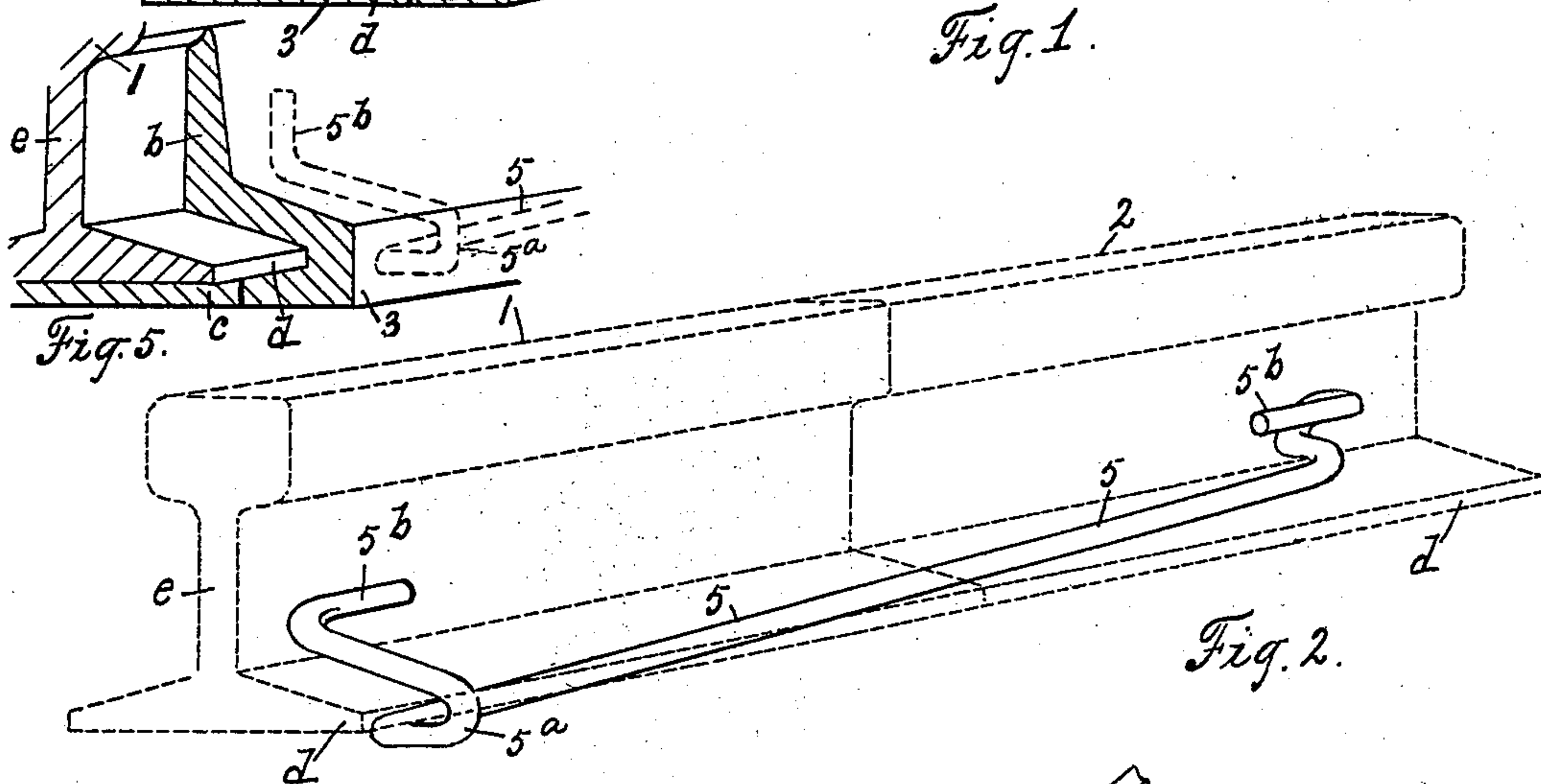
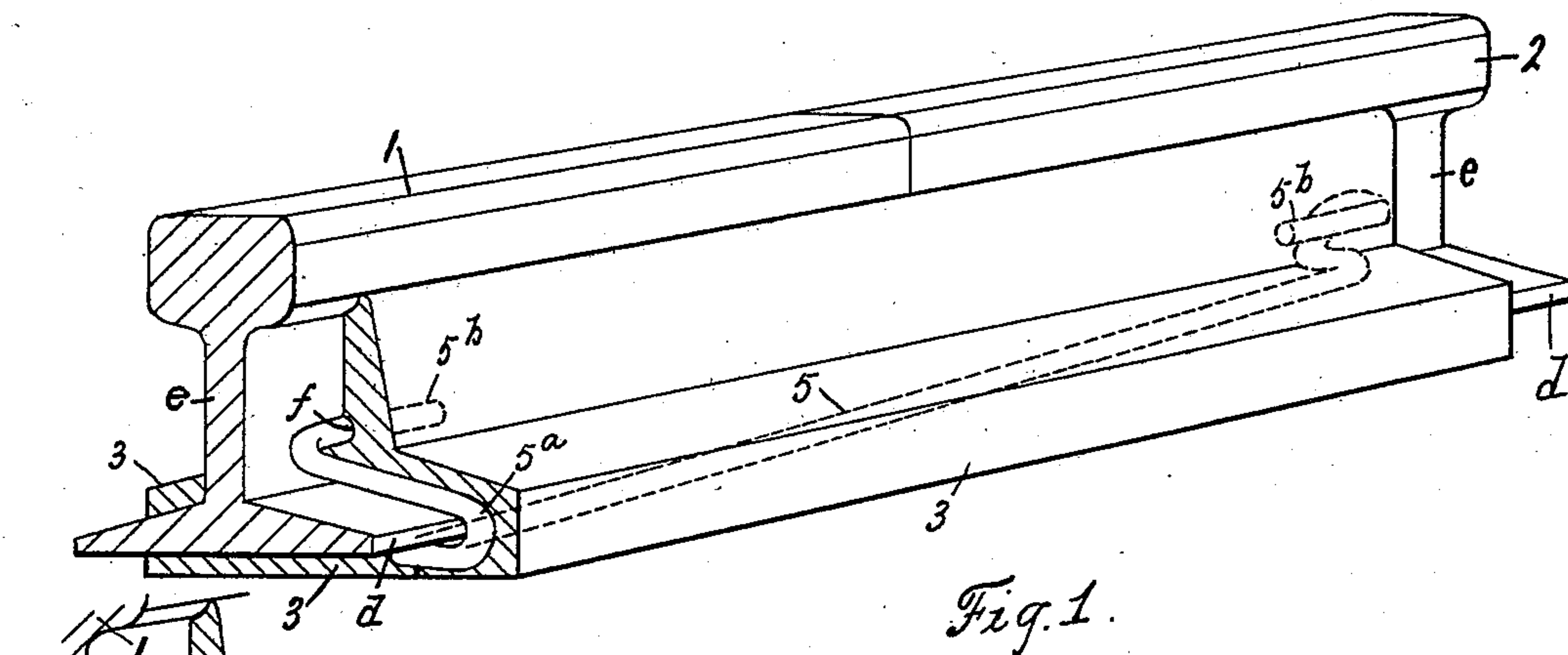


T. KERR.
RAIL COUPLING FOR ELECTRIC RAILWAYS.

APPLICATION FILED SEPT. 15, 1902.

NO MODEL.



Witnesses
A. Edmunds
A. Byrick

Inventor
Thomas Kerr
By P. J. Edmunds
Attorney

UNITED STATES PATENT OFFICE.

THOMAS KERR, OF LONDON, CANADA, ASSIGNOR TO GEORGE R. KERR, OF LONDON, CANADA, AND WILLIAM W. KERR, OF CHICAGO, ILLINOIS.

RAIL-COUPLING FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 722,992, dated March 17, 1903.

Original application filed August 5, 1901, Serial No. 70,852. Divided and this application filed September 15, 1902. Serial No. 123,445. (No model.)

To all whom it may concern:

Be it known that I, THOMAS KERR, a subject of the King of Great Britain, and a resident of the city of London, in the county of Middlesex, in the Province of Ontario, Canada, have invented a new and useful Rail-Coupling for Electric Railways, of which the following is a specification.

This invention relates to a device for holding together the abutting ends of two adjacent rails and for holding the wire which bonds the rails together electrically, so that the electrical current will pass from one rail to the other; and this invention consists of the improved construction and novel combination of parts, as will be hereinafter first fully set forth and described and then pointed out in the claims, reference being had to the accompanying drawings, wherein—

Figure 1 is a perspective view of my improved coupling and electrical bond adjusted in position for coupling and electrically bonding the adjacent ends of two rails together. In this view the bolts or other securing devices used to secure the coupling to the rails are not shown. Fig. 2 is a detail perspective view of the electrical bonding-wire. In this view the rails are shown in dotted lines. Fig. 3 is an end view of Fig. 1. In this view the electrical bonding-wire is removed. Fig. 4 is a detail perspective view of the coupling, showing the two sections into which it is divided slightly separated and the upright portion of one section cut away. Fig. 5 is a detail side elevation of a modification in the construction of the coupling. In this view the bonding-wire is wholly covered by the coupling. Fig. 6 is a cross-sectional view of same.

In the accompanying drawings the numerals 1 and 2 designate a portion of two rails the ends of which are adjacent to one another, and *d* designates the flanges, and *e* the webs, of said rails.

The numeral 3 designates the rail-coupling, formed in two sections *a b* and with a base *c*, and in each of the vertical portions of said coupling 3 a recess *f* is formed for the purpose which will be hereinafter set forth. The

numeral 4 designates a groove formed in and extending diagonally across the base *c* of said coupling 3, and said coupling is divided into two sections *a b* diagonally across said base and in line centrally through the groove 4.

5 designates a bonding-wire, preferably formed of copper, which wire rests in the groove 4 in the base *c* of the coupling 3, and one end of said wire 5 is folded at *5^a* over the flange *d* of the rail and inserted in a recess *f* in the coupling 3 and between the latter and the web *e* of the rail, and the other end of the bonding-wire 5 is also folded at *5^a* over the flange *d* on the opposite side of the adjacent rail and is inserted in a recess *f* in the coupling 3 between the latter and the web *e* of the rail.

In the accompanying drawings, particularly in Fig. 3, clamping-bolts 6 6 are shown securing the coupling 3 to the rails 1 and 2, and about four are usually employed for this purpose; but they may be secured together in any manner or by any means found most suitable or convenient, and elongated bolt-holes (not shown) are preferably formed in the coupling 3 to allow for expansion and contraction.

When placed in proper position, the bonding-wire rests in the groove 4 of the base *c*, and the upright portions of the sections *a b* of the coupling 3 rest against the opposite sides of the ends of the adjacent rails, and the base *c* projects under the ends of the adjacent rails, and when the ends of the bonding-wire are folded and inserted in the recesses *f* the whole is firmly clamped and rigidly secured together by the bolts 6 6 or other suitable securing devices.

When arranged and secured together as described, the bonding-wire 5, which is slightly larger in cross-section than the grooves or recesses 4 and *f*, respectively, and which extends diagonally across the line of the rails, will extend across their abutting ends centrally of the line of the rails.

In the modification shown in Figs. 5 and 6 the upright portion of the coupling 3 is provided at each end with a groove *f'*, which is an extension of or a branch from the groove

4, and in this groove f' the folded portion 5^a and the end 5^b of the bonding-wire 5 rest, and when so constructed the whole of the bonding-wire 5 is completely concealed, and
 5 when the clamping-bolts 6 are firmly tightened the effect will be to clamp and tightly bind the coupling 3 and rails 1 and 2 together. This will firmly clamp the ends of the bonding-wire 5 against the webs e of the adjacent
 10 rails, and the drawing of the sections $a b$ of the coupling together when tightening the clamping-bolts 6 6 will compress the adjacent faces of the sections $a b$ of the coupling 3 together at the groove 4. This will firmly clamp
 15 and compress the bonding-wire 5 against the under side of the rails, so that the bonding-wire 5 being firmly held against the under side of the ends of the adjacent rails and being bent around the flanges d and the ends firmly
 20 held against the webs e of the adjacent rails a very efficient electrical bond is provided and one the greater portion of which will be concealed, and thereby very difficult to surreptitiously remove or tamper with them in any
 25 way, and one all accidental displacement of which to render the bond ineffective will be avoided and completely prevented, and the coupling 3 being divided into two sections and diagonally, as shown and described, it may be
 30 readily and easily placed in position or removed without disturbing the rails. At the same time an extended portion of the base of each section of the coupling is under a portion of the foot of each rail and the vertical
 35 portion of each coupling clasps the two opposite sides of the adjacent rails. The result is that this construction gives the adjacent ends of the rails a base of support, firmly holds them strictly in line, avoids lateral deflection
 40 or sagging, secures exact continuity of the abutting rails, and at the same time a simple, strong, durable, and efficient device is provided and one that is very much less expen-

sive to manufacture and place in position than those in ordinary use.

I have found by experiment that the construction herein shown and described gives the best results. At the same time, while I prefer said construction, I do not wish to limit myself to the details thereof, as they may be
 50 modified in various ways without departing from the spirit of my invention. For instance, the end portions of the bonding-wire 5 instead of being folded and clamped between the coupling 3 and webs e of the rail the ends
 55 of said bonding-wire may be firmly held in sockets formed in the rail.

This application is a division of application Serial No. 70,852, filed August 5, 1901.

Having thus described my invention, I
 60 claim—

1. A coupling for electrical railways consisting of a base and two upright portions, said coupling being divided into two sections by dividing the base diagonally across the line
 65 of the rails, a groove formed in said base diagonally across the line of the rails, and a recess formed in each of the upright portions of said coupling substantially as and for the
 70 purpose set forth.

2. A coupling consisting of a base, and two upright portions, said coupling being divided into two sections by dividing the base diagonally across the line of the rails, a groove
 75 formed in said base diagonally across the line of the rails, and a recess formed in each of the upright portions of said coupling, in combination with rails, and means for securing said coupling to said rails, substantially as
 80 and for the purpose set forth.

In testimony whereof I have signed in the presence of the two undersigned witnesses.

THOMAS KERR.

Witnesses:

P. J. EDMUNDS,

A. BYRICK.