

(No Model.)

G. H. WILLIAMS.
ELECTRIC TRACK CIRCUIT RAIL JOINT.

No. 568,650.

Patented Sept. 29, 1896.

Fig. 1.

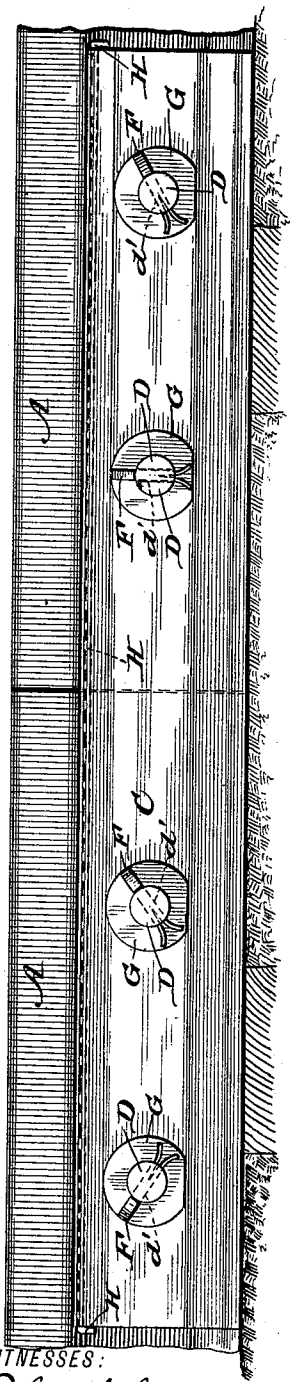


Fig. 2.

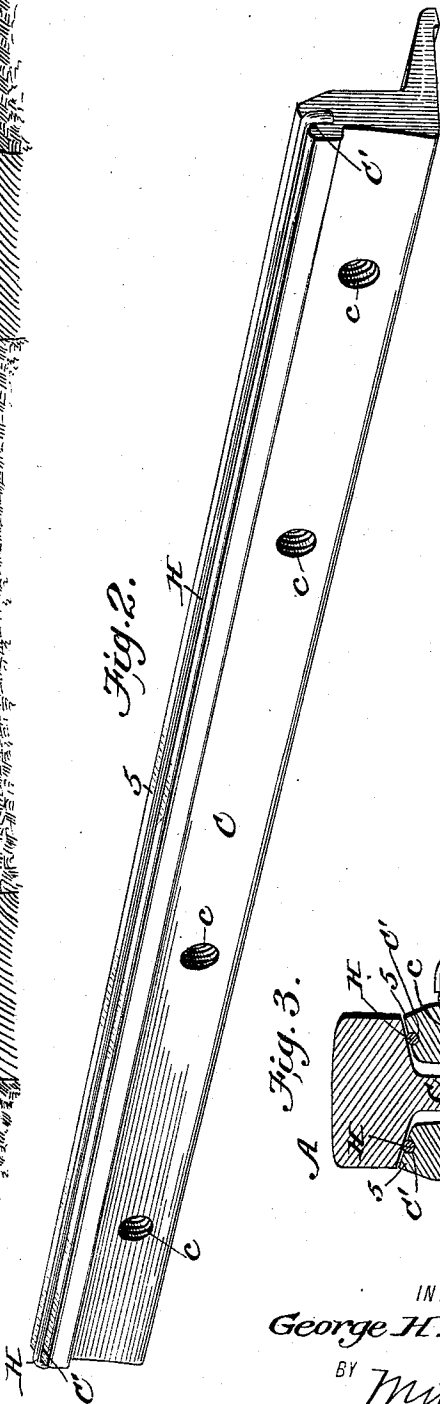
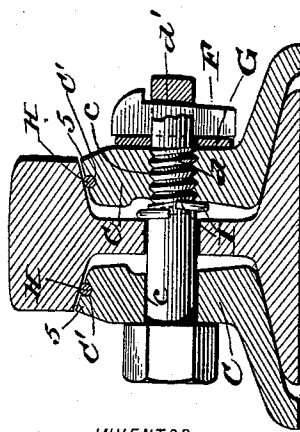


Fig. 3.



WITNESSES:

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ELECTRIC TRACK-CIRCUIT RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 568,650, dated September 29, 1896.

Application filed March 18, 1896. Serial No. 583,708. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HUGHES WILLIAMS, residing at Fort Smith, in the county of Sebastian and State of Arkansas, have invented certain new and useful Improvements in Electric Track-Circuit Rail-Joints, of which the following specification contains a full, clear, and exact description, reference being had to the accompanying drawings, in which—

10 Figure 1 is a side elevation of my improved rail-joint. Fig. 2 is a detail perspective view of one of the fish-plates, and Fig. 3 is a transverse section of the complete joint.

15 My invention relates to the rail-joint for which Letters Patent No. 376,402 were granted to me on the 10th day of January, 1888.

20 The object of the invention is to render the said joint capable of conducting an electric current from one rail to another, so that it may be used in electric track-circuit railways.

The invention consists in the construction hereinafter fully described and claimed.

A A represent the abutting apertured rail ends.

25 C C are angular fish-plates provided with bolt-apertures, the apertures *c* in one plate being threaded. D are the four bolts passing through the fish-plates and the rail-webs, and are provided with threads *d* between their 30 ends to engage the threaded apertures *c*, the outer non-threaded ends of the bolts being provided with slots *d'*, through which the keys F are passed. G are washers on the bolts between the keys and the fish-plates C.

35 As the above construction is fully shown and described in my patent before referred to, it need not be further described here, but I will now describe the improvement.

40 In the beveled upper edges *5* of each of the fish-plates or angle-bars C is formed a longitudinal groove *C'*, in which is placed the copper conducting-wire H, which is held therein by bending its ends downwardly upon the ends of the fish-plate or angle-bars. The copper 45 conducting-wire extends slightly above the beveled upper edges of fish-plate or angle-bar, so as to bear firmly or jaw against the ball of rail when joint is screwed up. If preferred, only one of the fish-plates or angle-bars 50 need be so constructed.

I is a copper or steel spring in the form of a broken ring fitting over two or all of the

bolts D between the inner face of one fish-plate or angle-bar and the adjacent face of the rail-web, so that when the bolts are screwed 55 up the springs will bear firmly against said two surfaces, thus carrying the electric current from one rail to another. If desired, one of these conducting-springs may be placed on every one of the bolts. 60

It will be seen that the improvements are very simple, easily applied, and that the conductors H I are concealed, so that they cannot be tampered with or become broken. 65

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A fish-plate or angle-bar having a longitudinal conductor-receiving groove extending from end to end along its upper edge, substantially as described. 70

2. A fish-plate or angle-bar having a beveled upper edge to engage the rail and provided with a conductor-receiving groove from end to end of said beveled edge, substantially 75 as shown and described.

3. A fish-plate or angle-bar having a longitudinal groove extending from end to end thereof and an electric conducting-wire extending along said groove and bent at its 80 ends upon the ends of the plate, substantially as described.

4. A fish-plate or angle-bar provided with a longitudinal groove extending from end to end of its upper edge to be closed by the 85 lower side of the rail-web, and an electric conducting-wire within said groove, substantially as described.

5. The combination in a rail-joint with the conducting-wire carried by a fish-plate or angle-bar, of a conducting-spring or broken ring 90 between the rail-web and fish-plate, substantially as described.

6. The combination with the fish-plates or angle-bars, one (or both) of which has a longitudinal groove and a conductor-wire held therein, of the conductor-spring or broken ring on two bolts (or more) between the adjacent faces of the rail-web and fish-plate or angle-bars, substantially as described. 95

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