

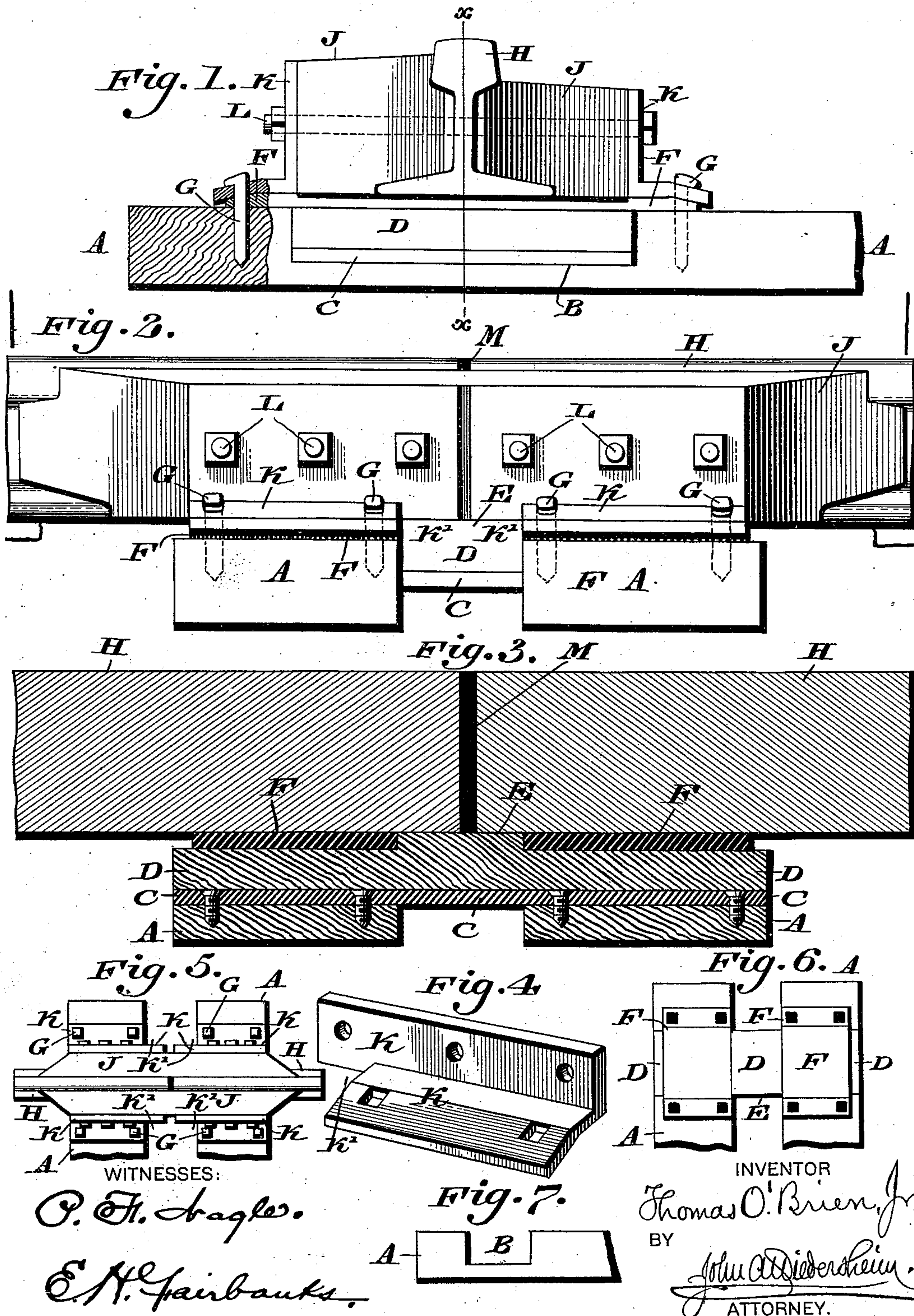
(No Model.)

T. O'BRIEN, Jr.

INSULATING RAILROAD JOINTS FOR ELECTRICAL SIGNALS.

No. 546,494.

Patented Sept. 17, 1895.





# UNITED STATES PATENT OFFICE.

THOMAS O'BRIEN, JR., OF PHILADELPHIA, PENNSYLVANIA.

## INSULATING RAILROAD-JOINTS FOR ELECTRICAL SIGNALS.

SPECIFICATION forming part of Letters Patent No. 546,494, dated September 17, 1895.

Application filed July 18, 1896. Serial No. 556,331. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS O'BRIEN, Jr., a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Insulating Railroad-Joints for Electrical Signals, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of novel means for insulating railroad-joints for electrical signals, as will be hereinafter set forth.

Figure 1 represents an end view, partly in section, of means for insulating railroad-joints embodying my invention. Fig. 2 represents a side elevation thereof. Fig. 3 represents a vertical section thereof on line  $x x$ , Fig. 1. Fig. 4 represents a perspective view of a railroad-chair forming part of my invention. Fig. 5 represents a top or plan view on a reduced scale of the device embodying my invention. Fig. 6 represents a top view of a detached portion on a reduced scale. Fig. 7 represents a side view of a portion of one of the ties employed.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates wooden cross-ties, on the upper faces of which are recesses B, in which are seated the longitudinally-extending steel or other suitable plate C and a longitudinally-extending wooden stringer D, the plate being screwed or otherwise secured to the ties.

E designates a neck on the stringer D, the same rising above the ties, the spaces aside of said neck being occupied by the iron plates F, which rest in the main on said stringer, while the side portions are recessed and rest on the ties, the recesses being adapted for the passage of the securing-spikes G.

H designates adjacent rails which rest on the neck E and plates F and have on opposite sides the wooden blocks J. Placed against the outside of said blocks J are metallic chairs K, through the vertical limbs of which are passed the bolts L, which also pass through the blocks J and webs of the rails, said bolts being provided with nuts whereby the parts are firmly connected.

The base limbs of the chairs are placed over and upon the outer side portions of the plates F, and are also recessed to receive the spikes G for securing said limbs, with the interposed plates, to the ties. It will here be observed that the portions of the base limbs of the chairs that face each other are cut away, as at K', and thus thoroughly separated the distance of the neck E, and the vertical limbs of the chairs are also separated, while bolted with the contiguous wooden block J.

Interposed between the ends of the rails is material M for insulating said rails one from the other. Now, as the rails rest on the neck E of the stringer and the metallic plates F, which latter rest on the portions of said stringer aside of the neck, it is evident that the nails are insulated from the ties. As the wooden blocks J are interposed between the rails and chairs, the rails are insulated from said chairs, by which provision the electric continuity of the rails is broken at places where conductors of an electric signal are employed, so that the current is from one rail to the mechanism of the signal, and then through the latter to the adjacent rail.

The metallic plate C supports the superimposed parts upon the recessed ties in a firm but somewhat elastic manner.

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

1. A wooden stringer on which the insulated ends of rails are supported, longitudinally-extending wooden blocks aside of the rails, and metallic chairs secured to said blocks and separated from each other, the bases of said chairs being also separated and adapted to be spiked to wooden ties, substantially as described.

2. Railroad rails insulated at their ends, in combination with a wooden stringer supported upon ties, metallic plates rested on said stringer, and metallic chairs bolted to wooden blocks aside of the rails and separated from each other, said chairs and plates being adapted to be spiked to the ties, substantially as and for the purpose set forth.

3. Insulated rails, longitudinally-extending wooden blocks aside of the same, metallic

chairs connected with said wooden blocks and separated from each other, a wooden stringer having a raised neck, metallic plates on said stringer aside of the neck, the rails being  
5 supported on said neck and plates, and ties supporting said plates, the bases of the chairs being over the side portions of said plates,

and spiked with the same to the ties, substantially as described.

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Witnesses:

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