

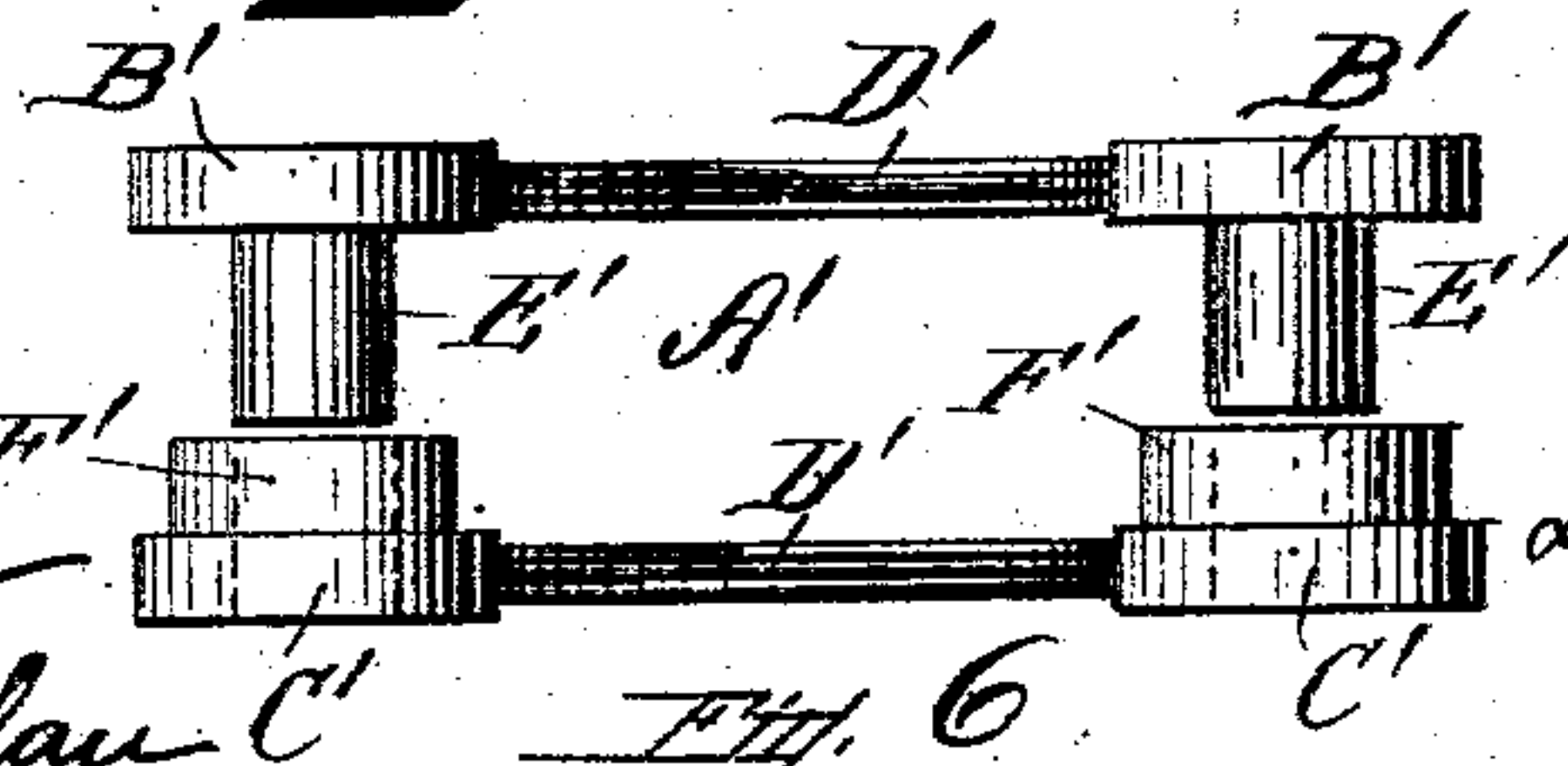
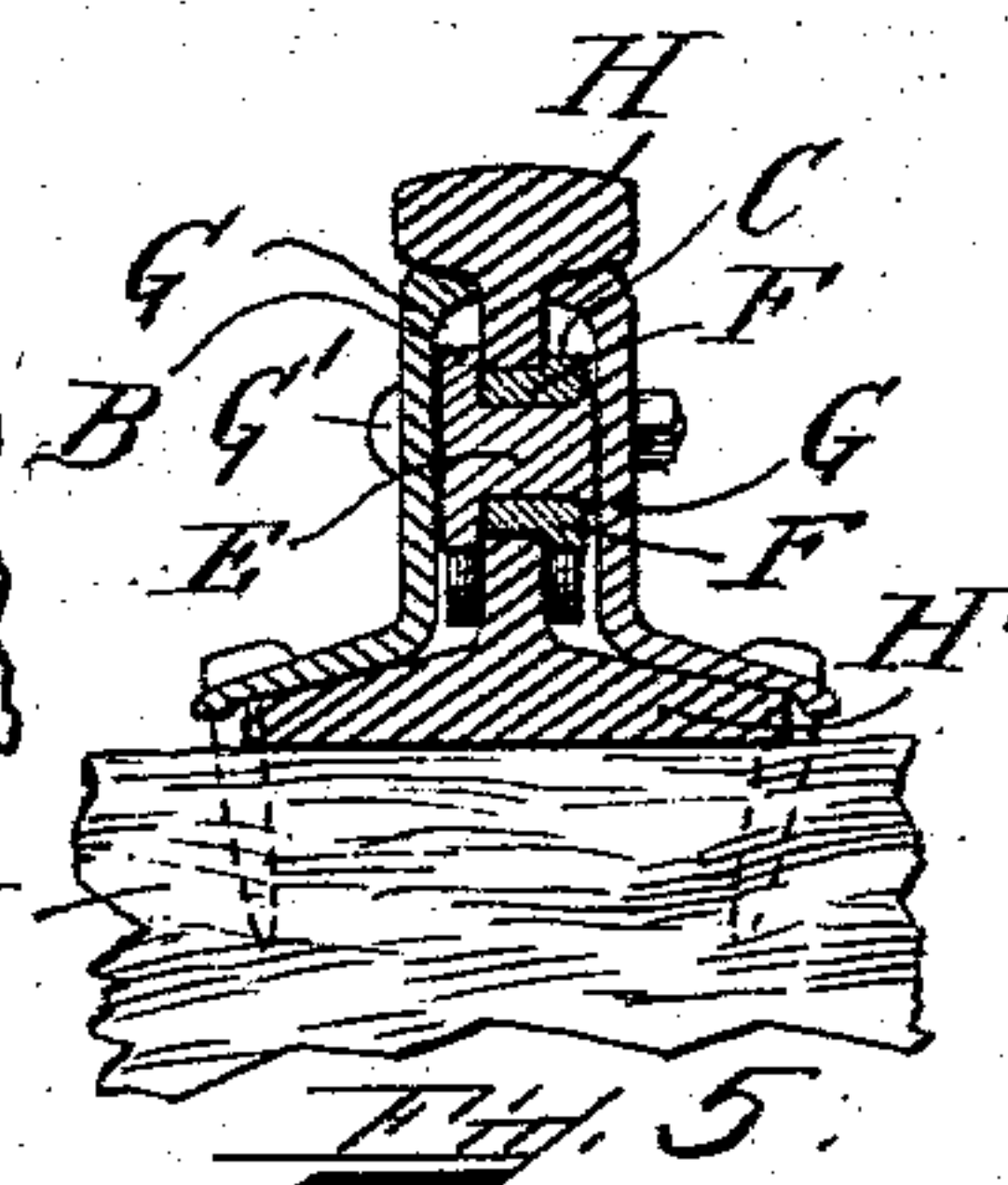
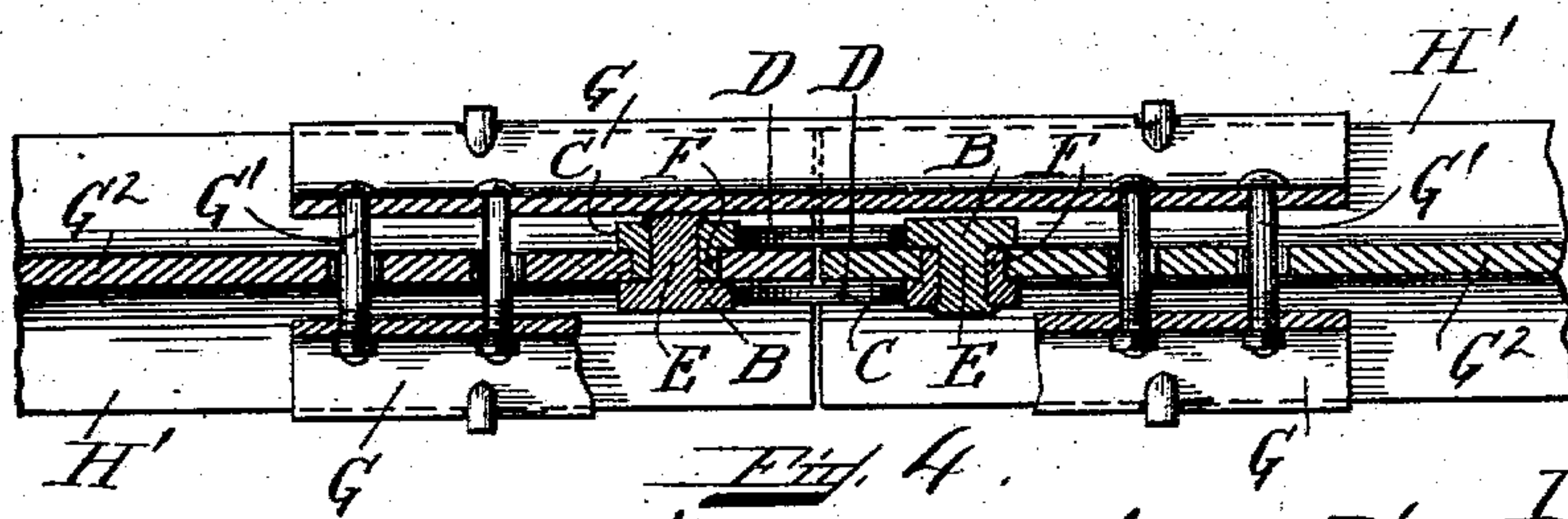
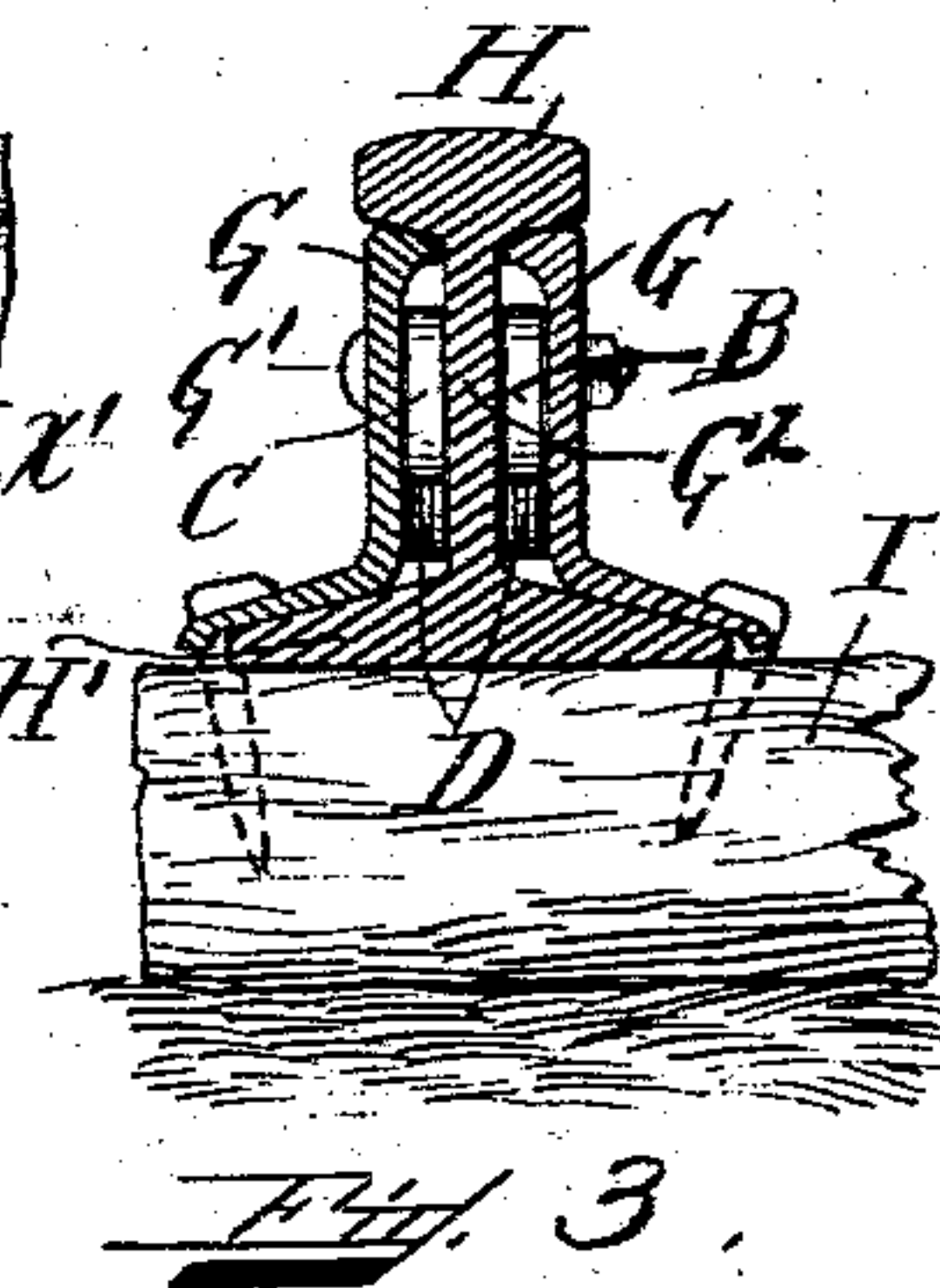
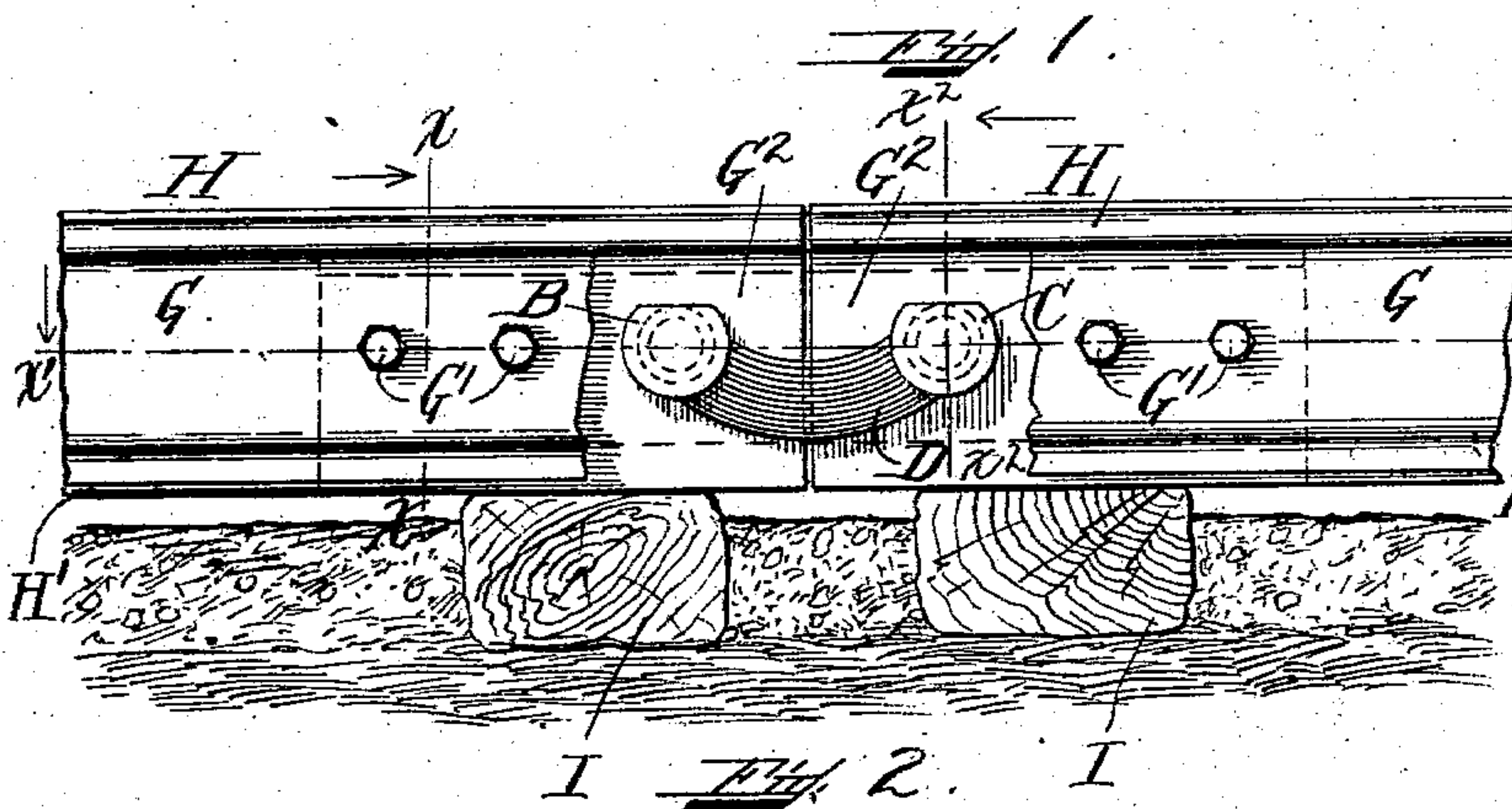
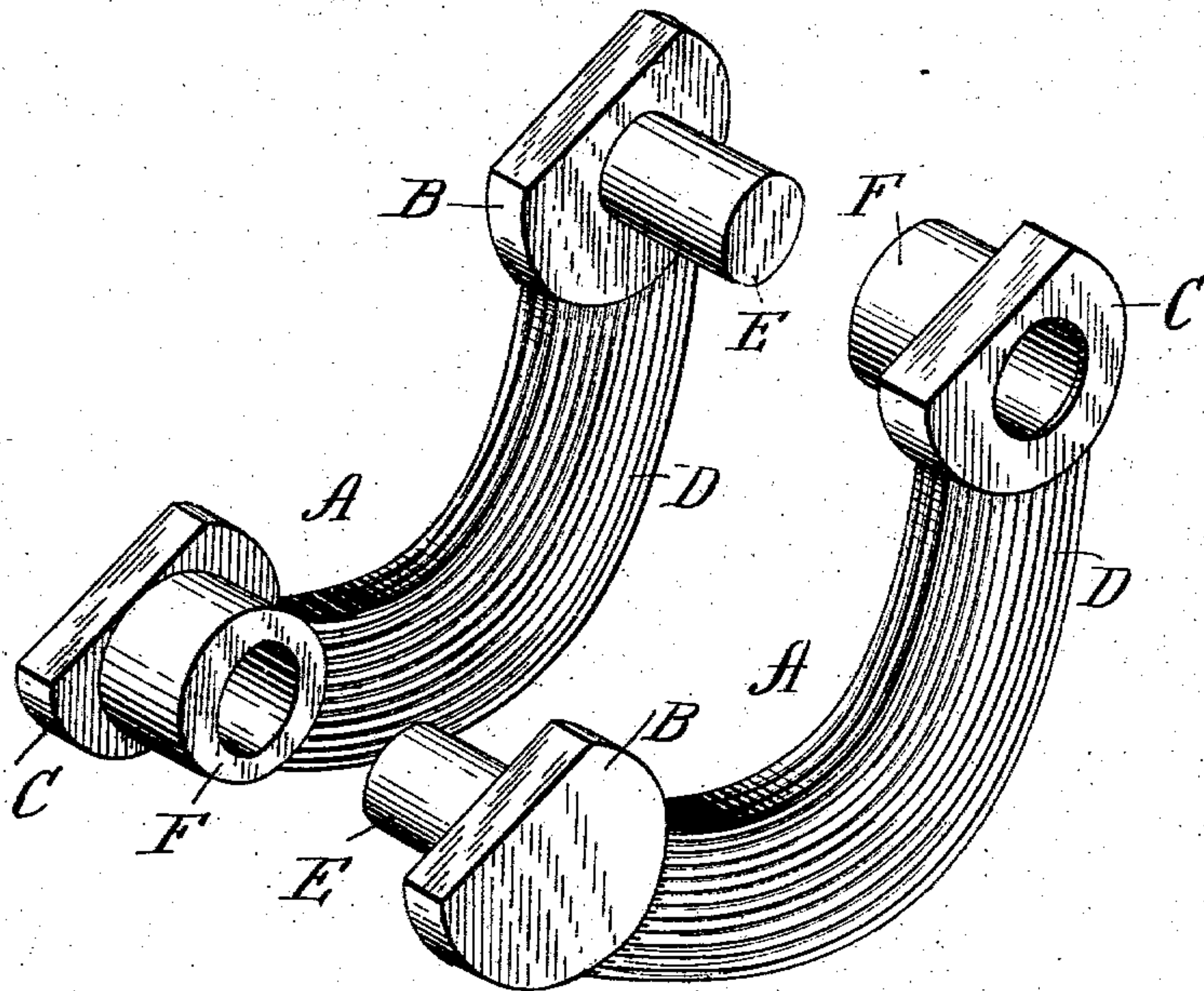
No. 740,912.

PATENTED OCT. 6, 1903.

L. PFINGST.
RAIL BOND.

APPLICATION FILED JULY 16, 1902.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

LOUIS PFINGST, OF DORCHESTER, MASSACHUSETTS.

RAIL-BOND.

SPECIFICATION forming part of Letters Patent No. 740,912, dated October 6, 1903.

Application filed July 16, 1902. Serial No. 115,849. (No model.)

To all whom it may concern:

Be it known that I, LOUIS PFINGST, of Boston, (Dorchester,) in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Rail-Bonds for Electric Railways, of which the following is a specification.

My invention relates to new and useful improvements in rail-bonds for electric railways or connectors for electrical conductors; and the objects of my invention are, first, to provide a bond which can be wedged into a hole in the rail, so that the jar caused by traffic will not loosen the bond in the rail; second, to provide a rail-bond which will give better contact on both sides of the webs of the rails and in which every point of the surface of the bond within the hole is brought into solid contact with the surface of said hole, thus preventing the admission of air and moisture; also, to provide a rail-bond which will be connected to another bond on the opposite side of the rail, so that the electric current will pass through both.

A further object of this invention is to provide a double bonding wherein only two holes, one on each side of the joint, are used. This construction materially reduces the cost of double bonding, which, as is well known, provides that in case one bond breaks the other carries the current.

My invention consists of certain novel features hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate a construction embodying my invention, Figure 1 is a perspective view of two of my improved rail-bonds before they are coupled or connected together. Fig. 2 is a side view of a portion of two rails, showing one of the bonds applied with the fish-plate partly broken away at the joint of the rails. Fig. 3 is a vertical cross-sectional view on the line $x x$, Fig. 2, looking in the direction of the arrow. Fig. 4 is a longitudinal sectional view on the line $x' x'$, Fig. 2, looking in the direction of the arrow. Fig. 5 is a vertical cross-sectional view on the line $x^2 x^2$, Fig. 2, looking in the direction of the arrow. Fig. 6 is a plan view of a modification hereinafter described.

Like letters of reference refer to like parts throughout the several views.

The rail-bond A is composed of two terminals B and C, having shoulders, as shown, and connected by the metallic wires D. The terminal B is provided with a solid projecting pin E and the terminal C is provided with a hollow projecting thimble F, all these parts being preferably of copper. The rails H are set up in line and secured to the ties I in the usual manner, after which the thimbles F of the bonds A are driven into the two holes on opposite sides of the joint between the rails in the web G of the rails. Then the pins E on the terminals B are entered into the hollow thimbles F and then driven into said thimbles, after which the terminals are compressed, and the metal of the pins and thimbles are spread by using the ordinary compressor or any of the well-known devices used for this purpose, which not only tightens up the bonds, but brings the sides of the terminals in close contact with the webs of the rails, insuring a good electric metallic contact.

From the drawings it will be seen that the bonds are located on opposite sides of the rail and in contact with the webs of the rails and extend across the joint between the rails and are connected together through one hole in the web of each rail. Over said bonds are located the fish-plates G, located on the base H' of the adjacent rails H and are secured together by bolts G', which extend through the web G² of the rail.

Fig. 6 illustrates a modification wherein the bonds A' are constructed with the terminals B' connected by metallic wires D', and from said terminals project two solid pins E', while the other bond A' is provided with two terminals C', connected by metallic wires D', and said terminals C' are each provided with hollow thimbles F'. The connection and operation of this modification is the same as that previously described.

Having thus described the nature of my invention and set forth a construction embodying the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a double rail-bond, a bond on each side of the webs of the adjacent rails and consisting of two connected shouldered terminals telescoped in openings in the adjacent rails

on opposite sides of the joint in contact with the surfaces of said openings and with said shouldered terminals in contact with the webs of the adjacent rails around said openings in which the terminals are telescoped.

2. In a double rail-bond, a bond on each side of the webs of the adjacent rails and consisting of two connected shouldered terminals one having a pin projection and the other a sleeve projection oppositely arranged on each bond and telescoped together in openings in the adjacent rails on opposite sides of the joint with the sleeves in contact with the surfaces of said openings and the shoulders of the terminals in contact with the webs of the adjacent rails around said openings.

3. In a double rail-bond, a bond on each side of the webs of the adjacent rails and consisting of two connected shouldered terminals one having a pin projection and the other an open-ended sleeve projection oppositely arranged on each bond and telescoped together in openings in the adjacent rails on opposite sides of the joint with the sleeves in contact with the surfaces of said openings and the

shouldered terminals in contact with the webs of the adjacent rails around said openings.

4. In a double rail-bond, a bond on each side of the webs of the adjacent rails and consisting of two connected shouldered terminals one having a pin projection and the other an open-ended sleeve projection oppositely arranged on each bond and telescoped together in openings in the adjacent rails on opposite sides of the joint with the sleeves in contact with the surfaces of said openings and the shouldered terminals in contact with the webs of the adjacent rails around said openings and with the pin projections in contact with the inner peripheries of the said sleeve projections.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 14th day of July, A. D. 1902.

LOUIS PFINGST.

Witnesses:

FREDERICK S. GORE,
A. L. MESSER.