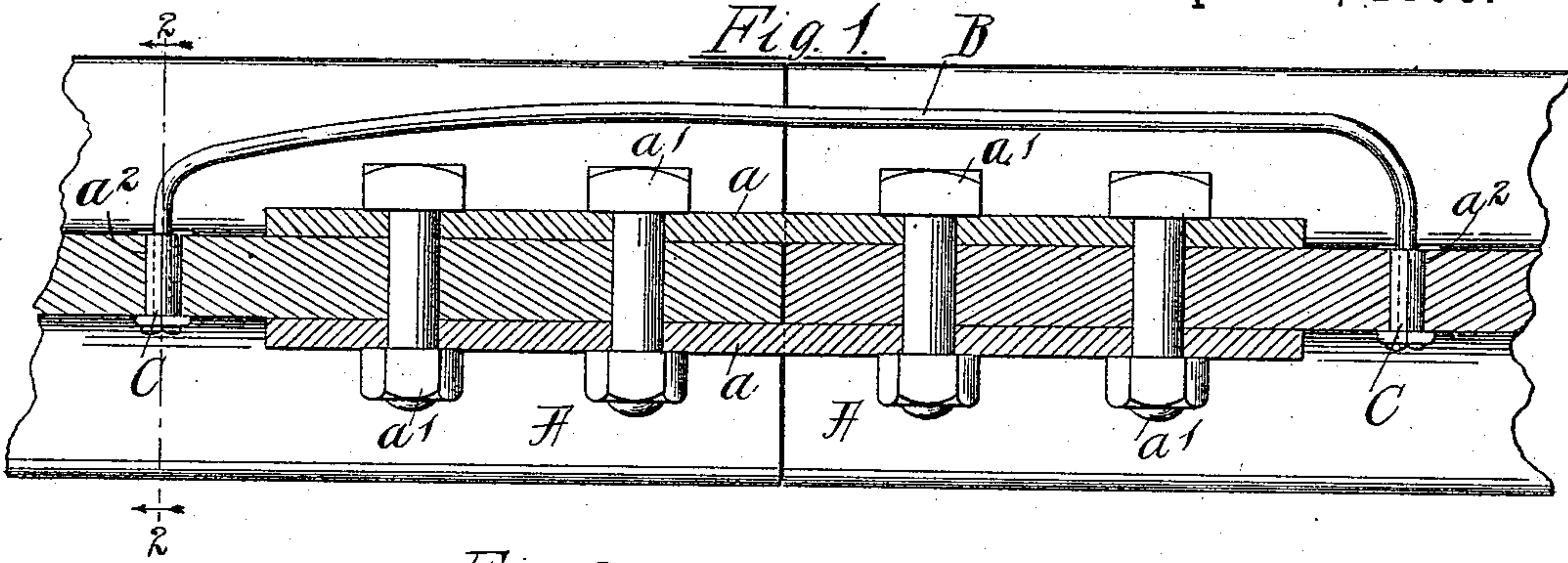


(No Model.)

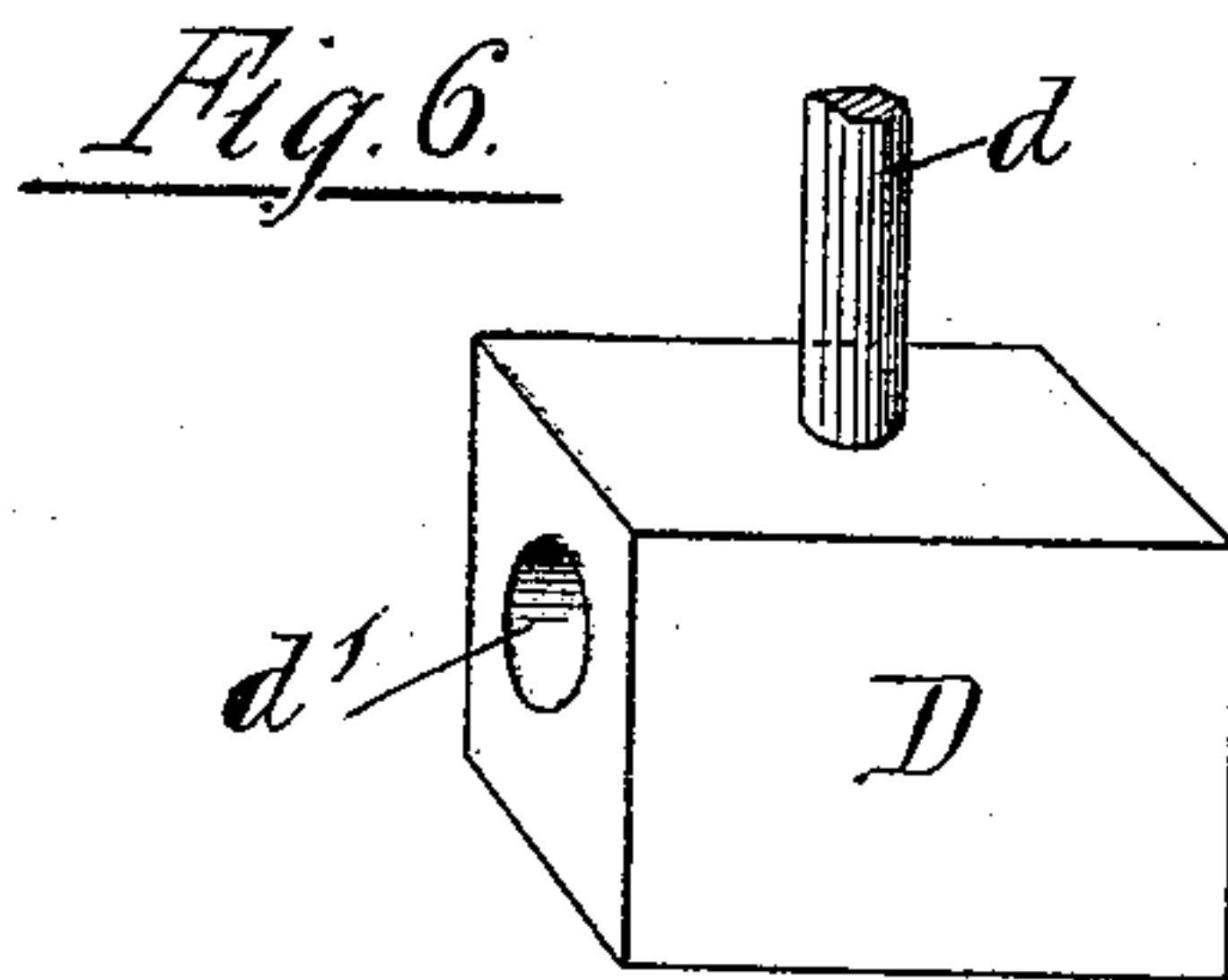
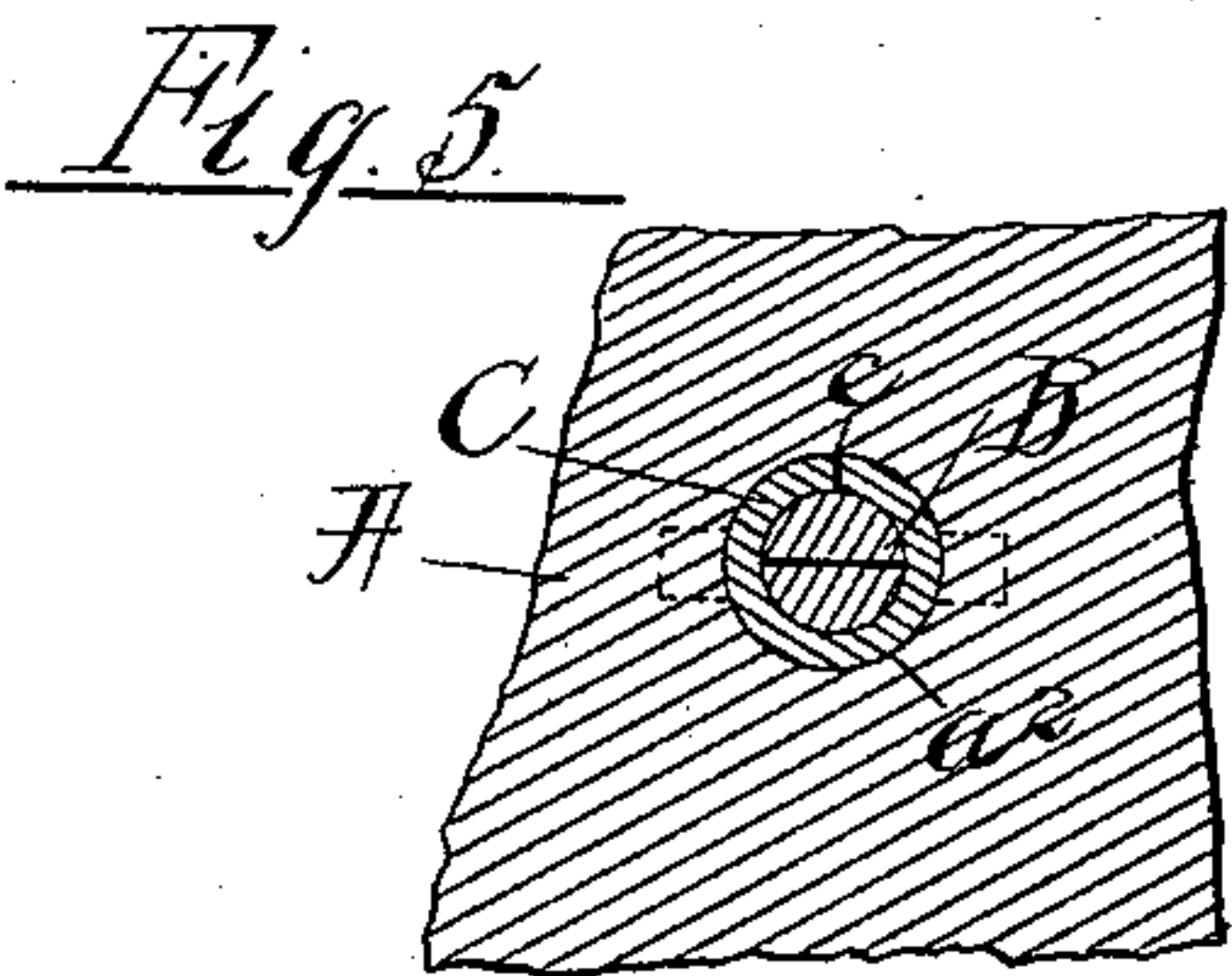
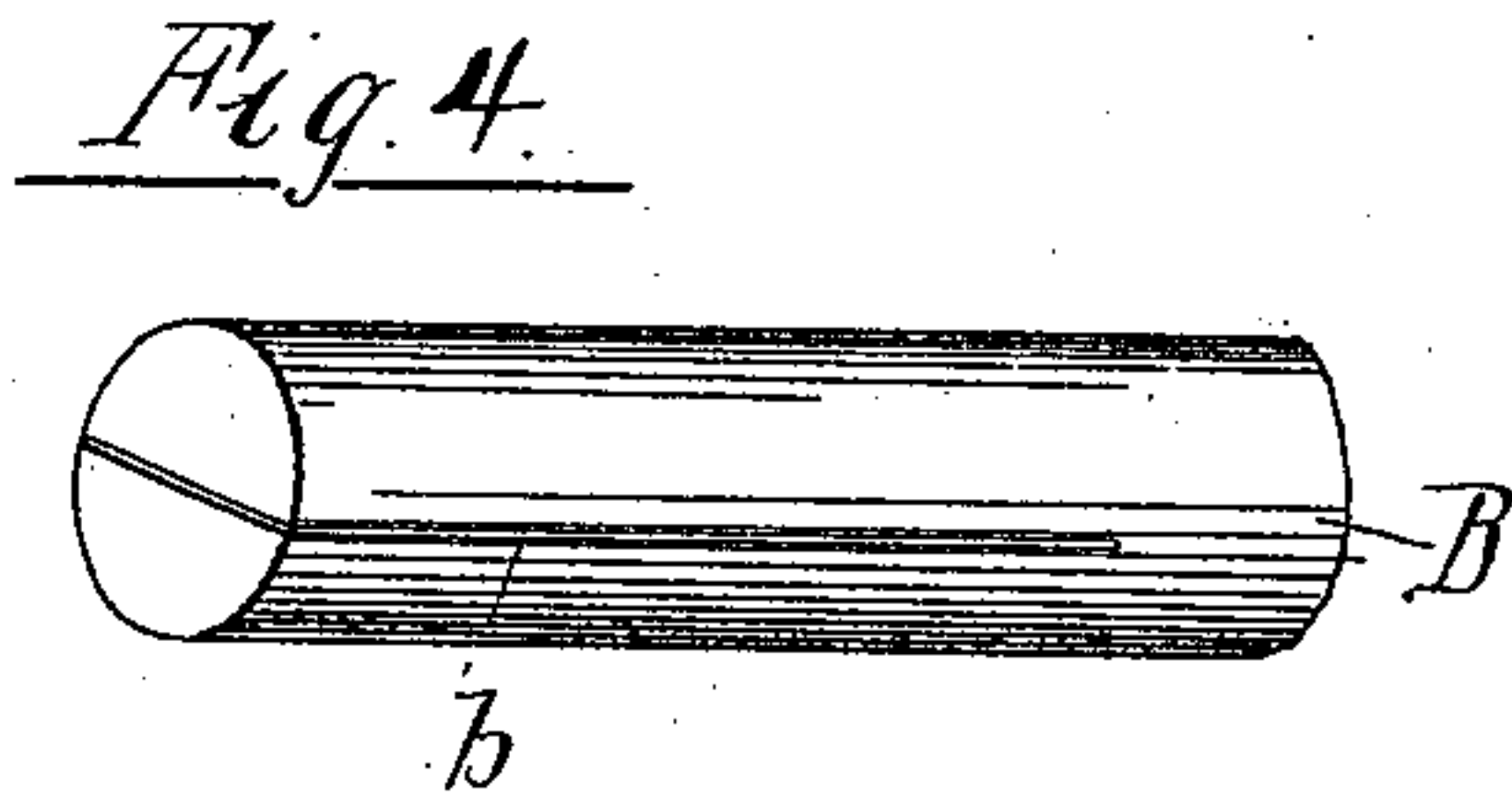
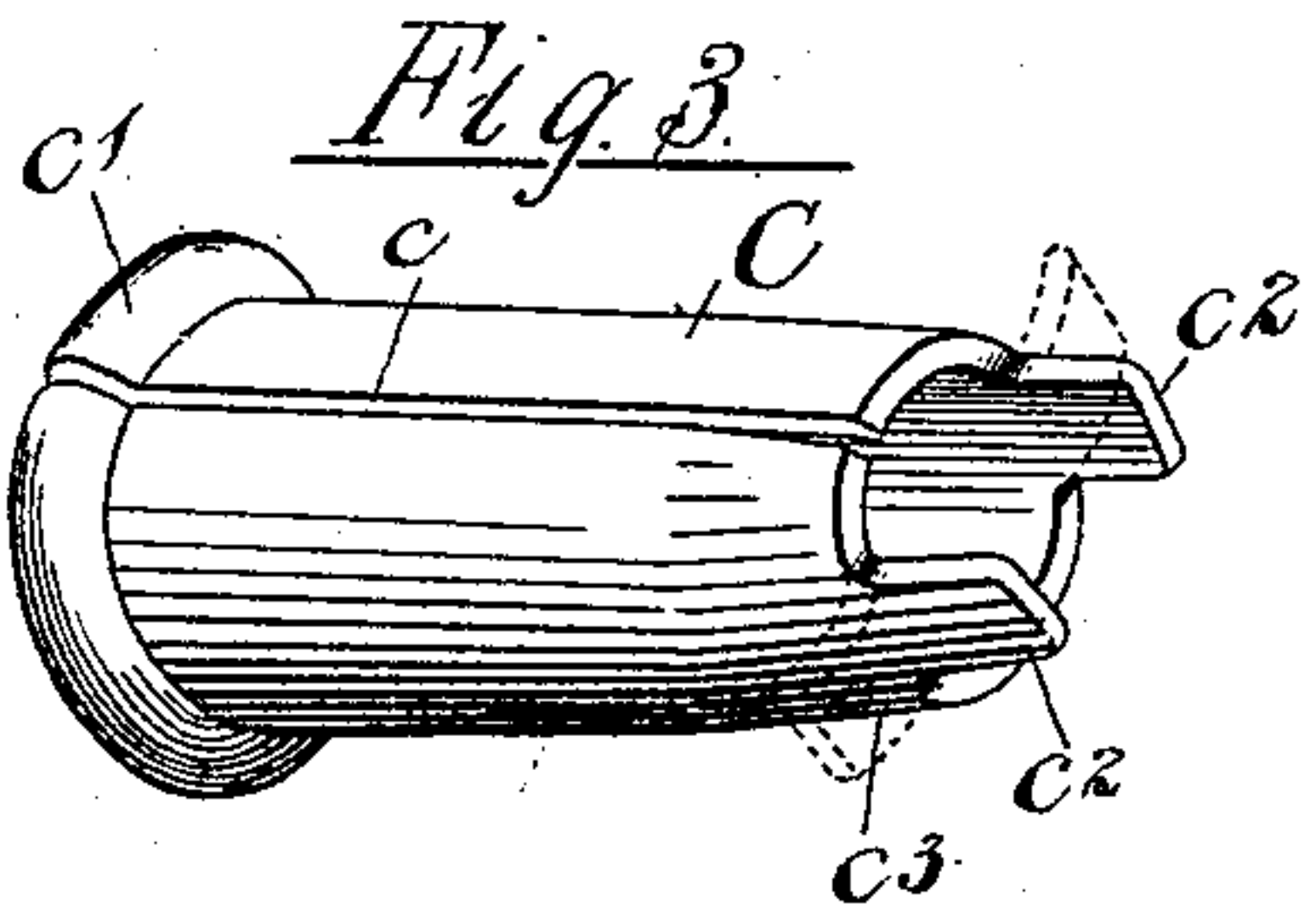
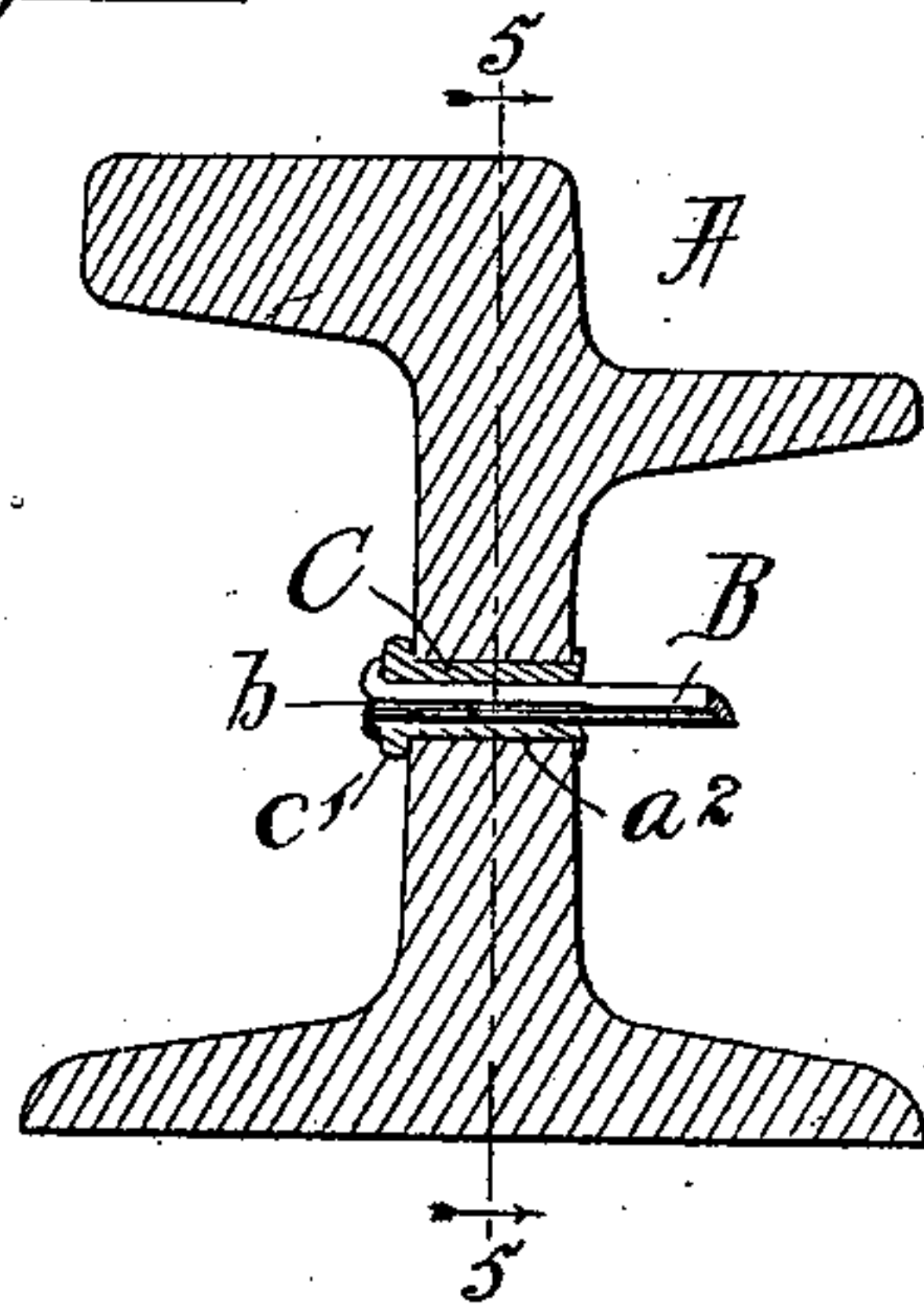
L. E. MYERS.  
RAIL CONNECTOR.

No. 538,458.

Patented Apr. 30, 1895.



*Fig. 2.*



Witnesses:-  
Clinton Haulink  
John W. Adams.

Inventor:-  
Louis E. Myers.  
by: Clayton Poole & Brown  
his Attorneys



# UNITED STATES PATENT OFFICE.

LOUIS E. MYERS, OF CHICAGO, ILLINOIS.

## RAIL-CONNECTOR.

SPECIFICATION forming part of Letters Patent No. 538,458, dated April 30, 1895.

Application filed December 19, 1894. Serial No. 532,298. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS E. MYERS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful  
5 Improvements in Rail-Connectors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon,  
10 which form a part of this specification.

This invention relates to improvements in rail connectors or devices for establishing electrical connection between the adjacent ends of railroad rails, so that the connected  
15 rails may be used as a part of an electrical circuit.

The invention consists in the matters hereinafter described and pointed out in the appended claims.

20 A device embodying my invention consists in its main and principal features of a wire which reaches from the end of one rail to the end of an adjacent rail, which wire is split longitudinally a short distance inwardly from  
25 each end, and split sleeves or thimbles adapted to receive the split ends of the wire and constructed for insertion within holes formed in the web or flanges of the rails, said sleeves being adapted to be driven into the holes  
30 after the ends of the wire have been inserted therethrough. The said split sleeves are made of such size that when driven into the holes they will be closed or clamped around the wire and will thus make close contact with the wire and the surrounding walls of the  
35 holes. To insure that the sleeves shall remain permanently in place the same are provided with a flange at one end and projecting parts at their opposite ends which are bent outwardly to engage the metal of the rail at the sides of the hole. Liability of withdrawal of the wire from engagement of the sleeves is prevented by spreading the split ends of the wire and bending them outwardly or clinching them against the ends of the sleeves. I  
40 prefer to construct the wire and the sleeves of copper, but they may, of course, be made of other metal which is a sufficiently good conductor of electricity.

50 My invention may be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a view of two meeting ends of two adjacent railway-rails, said view being a longitudinal plan section taken horizontally 55 through the webs of the rails and showing the connecting-wire and fastening devices in plan view. Fig. 2 is a vertical cross-section taken through the rail and the sleeve or thimble of the fastening device, showing one end of the 60 connecting-wire in elevation. Fig. 3 is an enlarged perspective view of one of the split sleeves or thimbles. Fig. 4 is an enlarged perspective view of one end of the connecting-wire. Fig. 5 is a detail section through the 65 end of the connecting-wire and fastening device, taken on line 5 5 of Fig. 2. Fig. 6 is a perspective view of an implement employed in fastening or securing the fastening devices to the rails. 70

As shown in said drawings, A A indicate the adjacent ends of two rails which may be joined in any suitable manner, but which are shown in Fig. 1 as connected by ordinary fish plates *a a* and bolts *a' a'*. 75

B indicates the connecting wire and C C are the split sleeves employed for fastening the ends of the wire to the rails. Both ends of the wire B are provided with slits *b* extending inwardly from each end of the wire. Each 80 of the sleeves C has the form of a short tube provided with a longitudinal slot or opening *c* extending throughout the entire length thereof, the sleeve being adapted to pass freely over the wire B when in its natural or ex- 85 panded position, the slot *c* at such time being extended or slightly open. The sleeve C is provided at one end with a flange *c'* and at its opposite end with two lugs or ears *c<sup>2</sup> c<sup>2</sup>*. The sleeve is adapted to fit within a hole *a<sup>2</sup>* 90 formed in an accessible part of the rail, preferably, and in the instance shown the web thereof, the hole *a<sup>2</sup>* being circular and of a size somewhat smaller than the exterior diameter of the hole *c* when the same is ex- 95 panded. Said sleeves are made approximately the same length as the thickness of the web of the rail in which the hole *a<sup>2</sup>* is formed, so that when the sleeve is inserted into the hole it will fill the same throughout 100 its entire length. I prefer to construct the sleeve of such length that when it is driven into the hole and the flange *c'* of the sleeve is brought against the web the opposite end



of the sleeve will be flush with the opposite side of the said web and the lugs  $c^2$  will project beyond the face of the web practically their full length. To facilitate the driving of the sleeve C the same is slightly tapered at its end remote from that at which the flange  $c'$  is located, as indicated at  $c^3$ .

The parts being constructed as described, the end of the connecting wire is secured to the rail in the following manner: The end of the connecting wire B to be secured in the rail is first thrust through the hole  $a^2$  in the same and the sleeve C is then slipped over the projecting end of the wire, its tapered end entering into the hole  $a^2$ . The sleeve is then driven into the hole, and in being driven, its slot  $c$  will be closed and the sleeve will be tightened about the end of the wire and at the same time will be tightly wedged between the wire and the walls of the hole. Inasmuch as the wire will be allowed to project beyond the flanged end of the sleeve to which pressure is applied in forcing the sleeve into the hole, I employ for driving the sleeve the implement indicated in Fig. 3, which consists of a metal block D having a handle  $d$  and a horizontal aperture  $d'$  of proper size to receive the end of the wire, but not large enough to admit the end of the sleeve. In using the block D it is slipped over the projecting end of the wire B until brought against the outer end of the sleeve, and the sleeve is then driven into the hole by blows struck on the outer end of said block D. As the sleeve has been driven home or forced into the hole sufficiently to bring its flange  $c'$  against the rail web the projecting lugs or ears  $c^2$  are then bent outwardly at right angles to the body of the sleeve, thereby securing the sleeve from possibility of endwise movement or from being drawn or forced out of the hole, except intentionally and by the use of tools suitable for the purpose. The end of the wire which projects beyond the sleeve is then separated so as to spread the parts at either side of the slit therein, thereby clinching the wire, and thus avoiding possibility of its being drawn outwardly through the sleeve.

The driving of the sleeve into the hole around the wire in the manner described serves to close the sleeve around the wire, as clearly seen in Fig. 5, and to thereby bring or force the sleeve into intimate contact with the metal of the rail at its exterior surface, and with the wire at its interior surface, the joints between the parts being so close as to prevent the entrance of moisture or other oxidizing agent. It will of course be understood that the sleeve and wire will be held firmly and strongly within the hole of the rail by the wedge action of the sleeve when the same is driven into the hole in the manner described, so that

the additional fastening of the parts by the bending outwardly of the lugs  $c^2$  and the spreading of the split ends of the wire is not necessary for holding the fastening device in place under ordinary circumstances, but is employed merely to prevent disconnection of the parts under extraordinary circumstances, as under the force of a contact with the wire of a pick ax or crow bar in the hands of workmen employed in repairing the track, or under similar circumstances.

The sleeve C may be constructed in any suitable manner, either of cast or wrought metal, but as far as I am now aware, it will be preferable to cast the sleeve in the shape illustrated, that is to say, with the slot thereof open, so that it may readily slip over the connecting wire.

The connecting device described has obvious advantages in point of simplicity and cheapness of construction, and convenience and ease of attachment to the rail, it being obvious that the sleeves may be easily made at a small cost, and that the ends of the wire may be split as described at a very small expense. The connecting device, as a whole, therefore, may be made much more cheaply than other connecting devices, which require forging or shaping of the ends of the connecting rod or wire.

I claim as my invention—

1. A rail connector consisting of a connecting wire, and split sleeves or thimbles adapted to receive the wire and to be driven into the holes in the rails, said sleeves or thimbles being provided at one end with projecting parts or lugs which may be turned outwardly against the rail to prevent withdrawal of the sleeves from the holes therein, substantially as described.

2. A connector for rails, comprising a wire which is longitudinally split at its ends, and split sleeves or thimbles adapted to receive the ends of the wire and to be driven into holes in the rails, substantially as described.

3. As a means for connecting the adjacent ends of rails, cylindrical holes in the rails, a connecting wire, split sleeves or thimbles adapted to receive the ends of the wire and provided with projecting parts or lugs at their ends which may be bent outwardly to prevent withdrawal of the same, said wire having split ends adapted to be bent outwardly to engage the ends of the split sleeves, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

LOUIS E. MYERS.

Witnesses:

W. J. BUCKLEY,  
HENRY W. CARTER.