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 INTERMEDIATE TELEPHONE CONNECTOR.
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941,519.

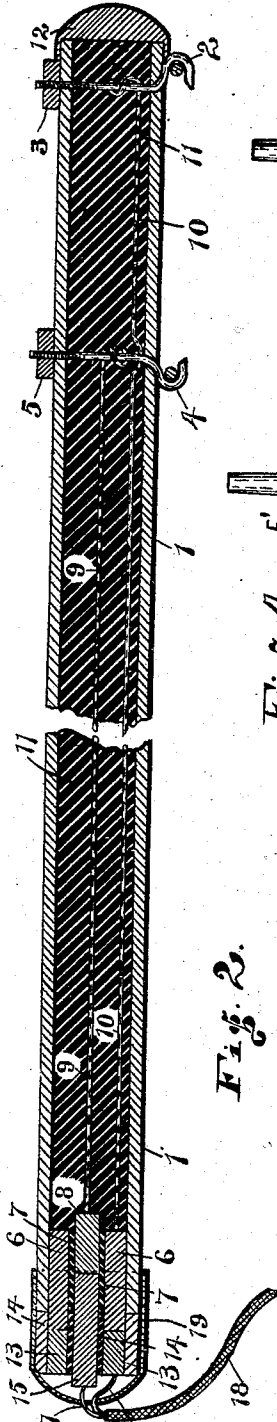


Fig. 2.

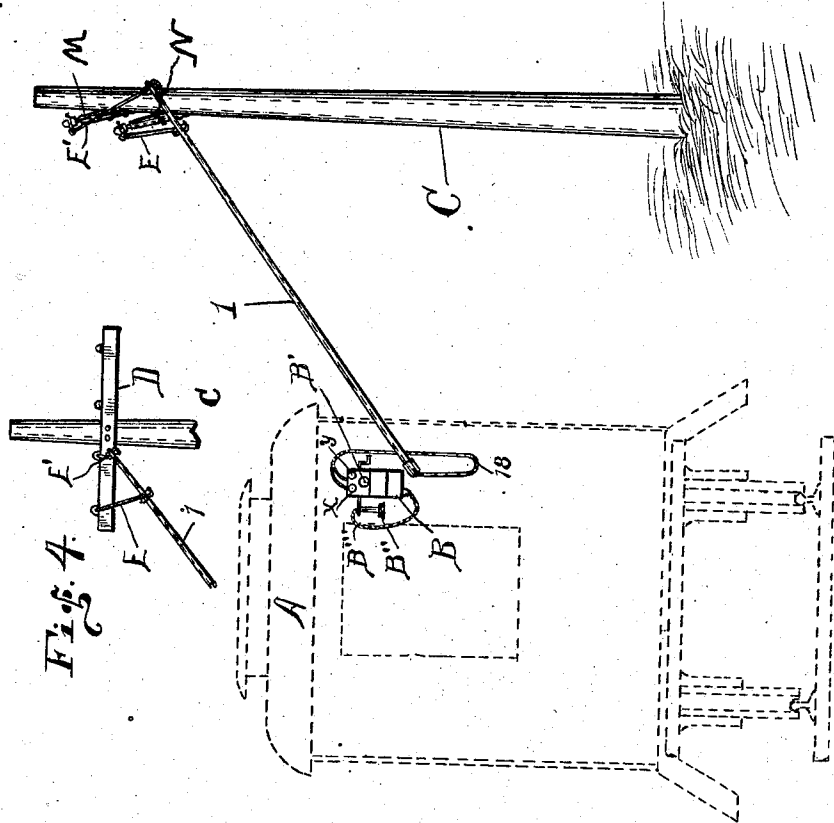


Fig. 4.

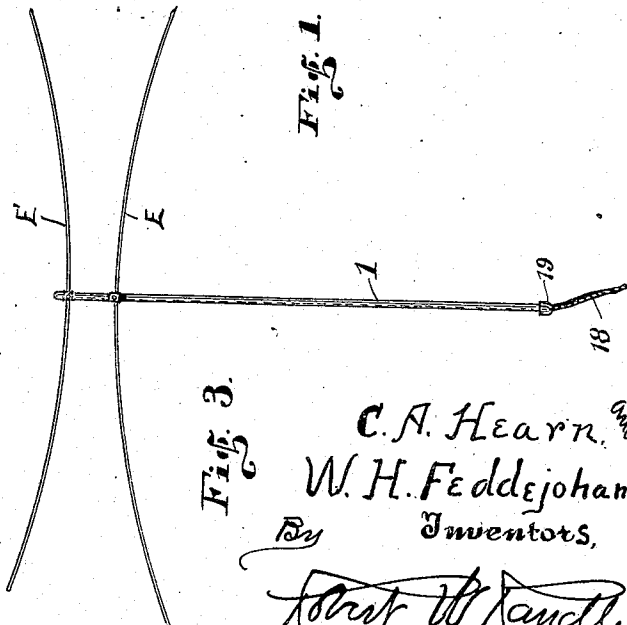


Fig. 3.

Fig. 1.

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UNITED STATES PATENT OFFICE.

CHARLES A. HEARN AND WILLIAM H. FEDDEJOHANN, OF DECATUR, INDIANA.

INTERMEDIATE TELEPHONE-CONNECTOR.

941,519.

Specification of Letters Patent.

Patented Nov. 30, 1909.

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To all whom it may concern:

Be it known that we, CHARLES A. HEARN and WILLIAM H. FEDDEJOHANN, citizens of the United States, residing at Decatur, in the county of Adams, and in the State of Indiana, have invented certain new and useful Improvements in Intermediate Telephone-Connectors, of which the following is a full and complete specification and exposition, being such as will enable others to make and use the same with absolute exactitude.

The object of our present invention, broadly speaking, is to provide an intermediate telephone connector of simple and inexpensive construction, practical and efficient in operation, strong and durable in construction, positive in action, easily operated and controlled, and which can be manufactured and sold at a comparatively low price.

More specifically stated: Our object is to provide a device by the employment of which electrical communication may be established at any point along the wires between regular stations,—that is to say, for instance, between a telephone or the like located in a car; and a fixed telephone, or another movable telephone, located along the wires with which the first telephone may be connected.

Finally, our invention relates to the art of telephoning or telegraphing from cars to other stations, and particularly to the means whereby the electrical connection may be quickly made at any point where the car, by which it is carried, may stop.

Other objects and particular advantages of our invention will be made apparent in the course of the ensuing specification, and by an inspection of the drawings forming a part thereof.

One manner for carrying out the objects of our invention, and that which in practice we find to be most efficient and practical, is shown in the accompanying drawings, in which—

Figure 1 shows our invention in operative position. Fig. 2 is a central longitudinal section of the essential elements of the invention proper. Fig. 3 shows our invention as connected to two line wires, showing an underside plan view thereof. And Fig. 4 is a detail view showing another manner for employing our invention.

Similar indices denote like parts throughout the several views.

In order that the construction, operation, and advantages of our invention may be fully understood and appreciated, we will now take up a detail description thereof, in which we will set forth the invention as briefly and as comprehensively as we may.

Referring now to the drawings in detail: the letter A denotes a car mounted upon a track, and operative in any well known manner. Carried within the car is a telephone B, having a transmitter B', and a receiver B'', the receiver being connected to the telephone by the double-wire flexible cord B'''. Located along parallel with and to one side of the track on which the car is mounted are poles, as for instance the pole C, having the cross arm D. Carried by the cross-arm are at least two transmission wires E and E' which carry the positive and negative currents of electricity, or on which the currents travel in one direction on one wire and in the opposite direction on the other wire. All of said parts are of any ordinary construction, and may be variously changed.

Projecting at an angle from the side of the pole 1, and located near its outer end, is the hook 2 whose shoulder is partly embedded in the side of the pole, from which it extends outward at an acute angle, with its free end turned rearward substantially parallel with the pole, as indicated. The shank of the hook 2 projects through the pole at right angles thereto with a threaded end protruding through the pole opposite to the side from which the hook protrudes, and with a nut 3 threaded on said protruding portion of the shank and contacting with the pole to hold said hook positively in position as shown. The numeral 4 denotes a second hook which is identical with the hook 2 but is oppositely disposed with reference thereto, that is to say,—the free end of the hook 4 is directed toward the outer end of the pole. The shank of the hook 4 extends through the pole and it is secured by the nut 5 threaded thereon.

The hooks 2 and 4 are located some distance apart, preferably slightly more than is the distance between the wires E and E', as indicated in Fig. 3.

Located in the interior of the inner end of the pole 1, and there secured, is the thimble 6 which does not extend out to the extreme end of the pole, and it is formed of an electroconductive material. Secured in

the thimble 6, and of same length thereof, is a tube 7 formed of an electric insulating material. Secured in the inner end of the tube 7, and of less length than the tube 7, is the plug 8 formed of an electric conductive material. Said parts 6, 7, and 8, form the socket member of the pole. The numeral 9 denotes a wire secured at one end to the plug 8 and at the other end to the shank of the hook 4. Numeral 10 also denotes a wire, this being secured at one end to the thimble 6 and at the other end secured to the shank of the hook 2. After said parts of the pole are secured in position then the interior of the pole may be filled with an insulating material, denoted by the numeral 11, after which the cap 12 may be secured over the outer end of the pole as indicated. The insulating material 11, and the tube 7, prevent electrical connection between the wires 9 and 10 or any of the parts thereto attached. The plug for said socket is formed as follows: Numeral 13 denotes a short thimble conforming to but of less length than is the thimble 7 with which it is adapted to contact and from which it extends out even with the inner end of the pole 1. Secured on the inside of the thimble 13 is the insulating tube 14 corresponding with the tube 7. And secured in the tube 14 is the plug 15 which is considerably longer than is the thimble 13, and when the thimbles 6 and 13 are connected then the inner end of the plug 15 should contact with the plug 8.

Secured to and extending from the outer end of the thimble 13 is the wire 16; and secured to and extending from the outer end of the plug 15 is the wire 17. Said wires 16 and 17 should be insulated from each other and then united together into the flexible wire cord 18. The opposite ends of said wires should be connected to the two poles x and y of the telephone, as indicated. Numeral 19 denotes a cap to close the inner end of the pole 1, with said wires passing through the center of said cap. Said cap is disposed around on the periphery of the pole and adapted to be retained thereon by frictional contact. Also, the plug formed by the members 13, 14, and 15 is adapted to be retained in place by frictional contact with the members 6, 7 and 8.

In some instances the cross-arm D is not employed but in place thereof brackets are used, as for instance the brackets M and N as shown in Fig. 1, the wires E and E' being carried by said brackets.

The operation of our invention is quite simple, for instance: Desiring to telephone from the car then the inner end of the pole 1 is connected to the cord 18, and therefore

to the telephone, by means of the plug and socket construction above described. The outer end of the pole is then projected out over the wires E and E'. The pole is then drawn slightly inward, causing the hook 2 to engage the outer or upper wire, and then drawing inward and downward until the hook 4 engages the other wire, as in Fig. 3, by which the outer end of the pole will be secured in position without manual assistance, and the inner end of the pole may rest on the window sill, thereby leaving the operator free to manipulate the telephone in the usual manner.

By means of this construction we establish an electric circuit from the wires E and E' through the telephone, with means whereby it will not be necessary for the operator to leave the car in order to telephone to the station he desires to communicate with.

We desire that it be understood that various changes may be made in the several details of construction without departing from the spirit of our invention or sacrificing any of the advantages thereof.

Having now fully shown and described our invention, and one manner for its operation, what we claim and desire to secure by Letters Patent of the United States, is—

1. An intermediate telephone connector comprising a pole, a pair of hooks projecting laterally from said pole, said hooks being oppositely directed and in alinement longitudinally of the pole, wires connected to said hooks and leading therefrom to an end of the pole, means for insulating said hooks and wires from each other, and means for connecting the terminals of said wires to a telephone.

2. An intermediate telephone connector comprising a pole, a pair of hooks projecting laterally from said pole, said hooks being oppositely directed and in alinement longitudinally of the pole, the stems of said hooks passing through the pole and projecting beyond the opposite side of the pole, means engaging the projected ends of the stems for holding the hooks against displacement, wires connected to the stems of said hooks within the pole and leading therefrom to an end of the pole, means for insulating said wires and hooks from each other, and means for connecting the terminals of said wires to a telephone.

In testimony whereof we have hereunto subscribed our names to this specification.

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Witnesses:

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