No. 889,786. PATENTED JUNE 2, 1908.

C. J. G. KEINER.

CONNECTOR FOR ELECTRIC WIRES.

APPLICATION FILED OCT. 18, 1906.

Fig. 1.

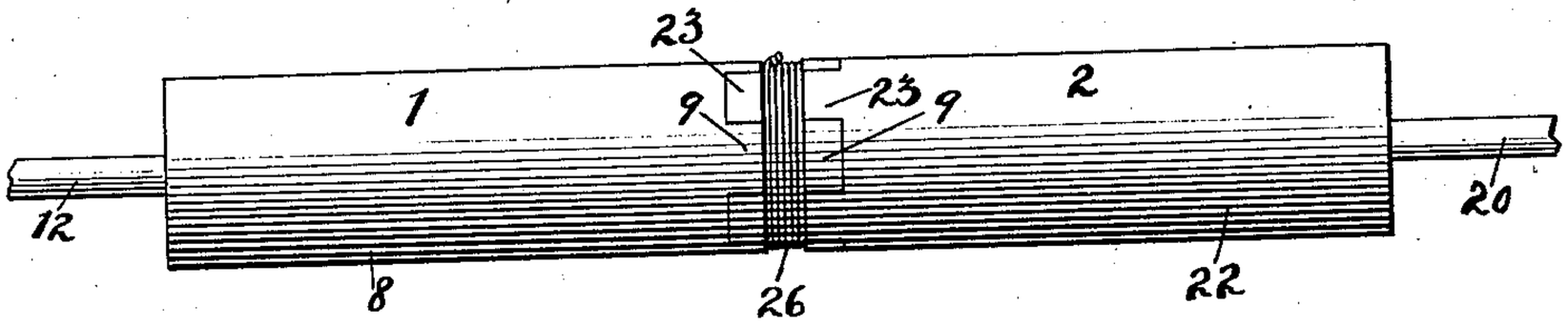


Fig. 2.

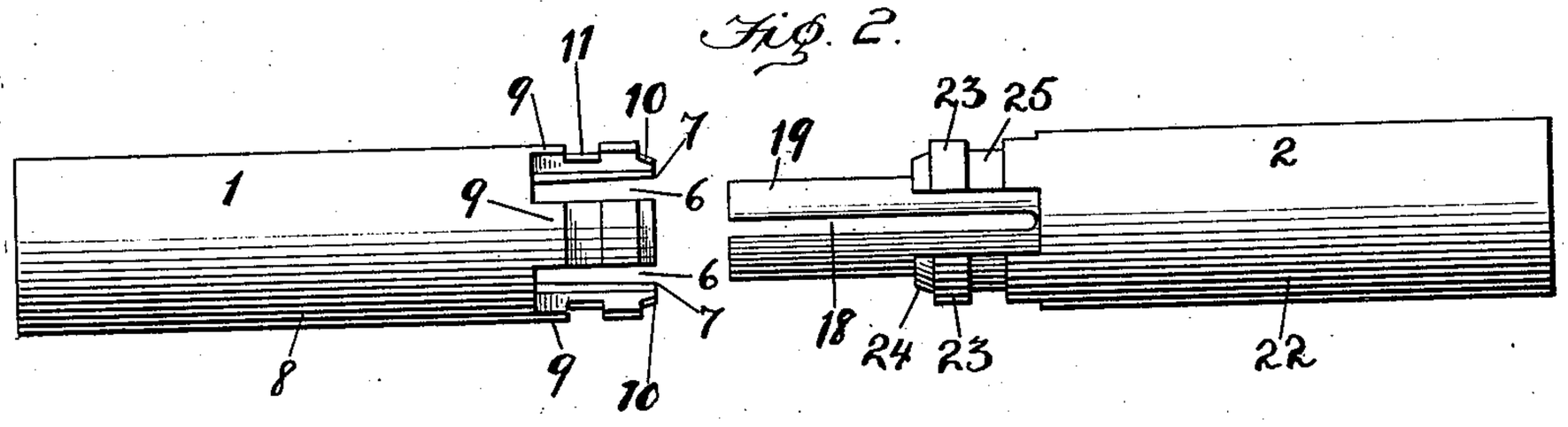


Fig. 3.

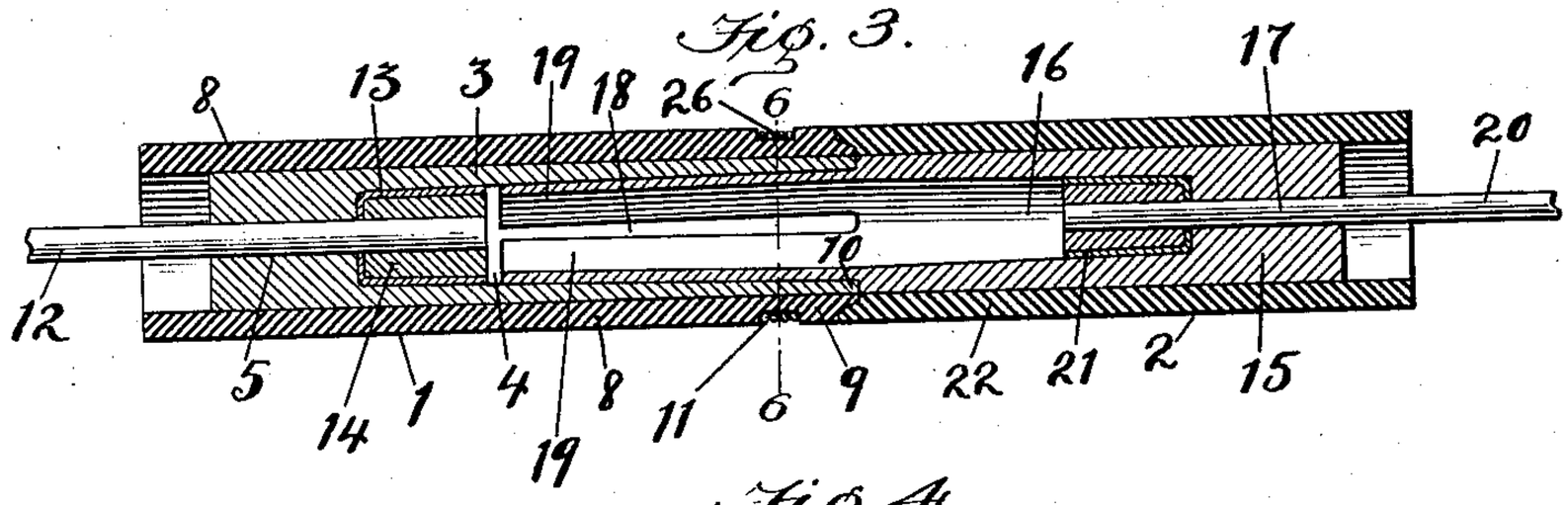


Fig. 4.

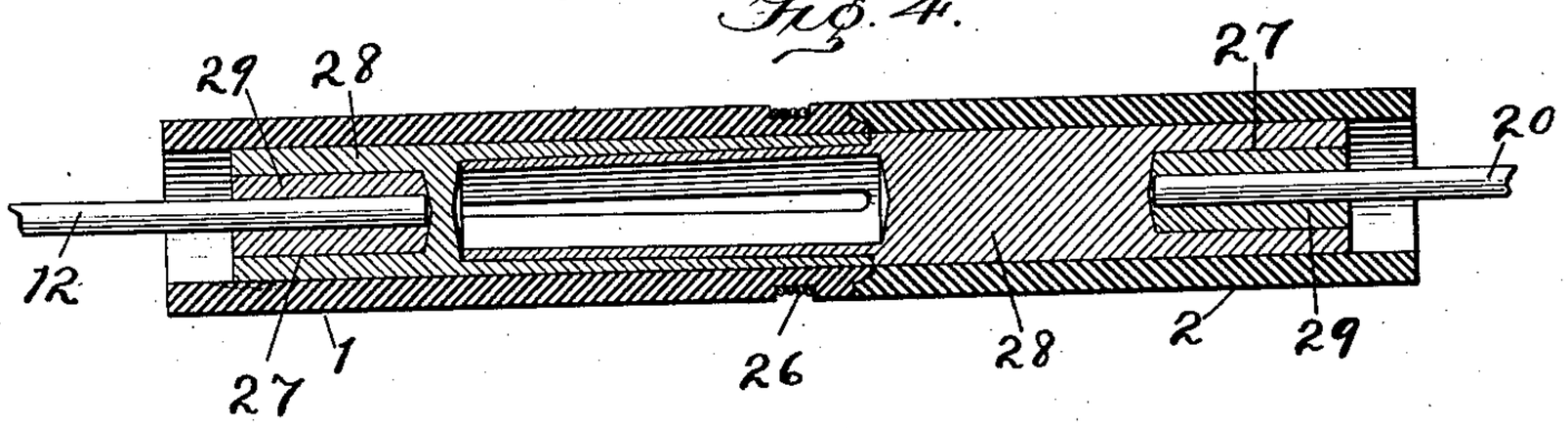


Fig. 5.

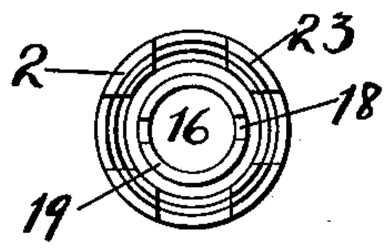
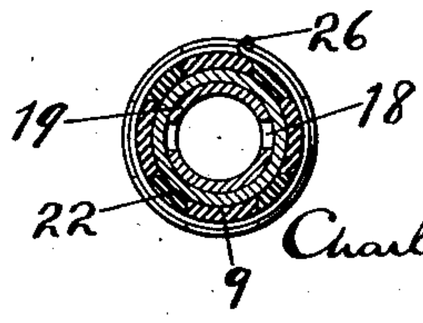


Fig. 6.



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UNITED STATES PATENT OFFICE.

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CONNECTOR FOR ELECTRIC WIRES.

No. 889,786. Specification of Letters Patent. Patented June 2, 1908.

Application filed October 18, 1906. Serial No. 339,450.

To all whom it may concern:

Be it known that I, CHARLES J. G. KEINER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Connectors for Electric Wires, of which the following is a specification.

This invention relates to improvements in connectors for electric wires and has particular reference to a two part and a two-way insulated connector by which the ends of the conductor wires may be brought into electrical connection and securely held against accidental displacement.

The device is particularly well adapted for use on motor cars where the connector is subjected to vibration in that the use of binding screws is avoided and all liability of the connection being broken by the screws working loose.

The invention is illustrated in the accompanying drawing, in which,—

Figure 1 shows a side elevation of the improved device operatively connected. Fig. 2 illustrates a side elevation of the two parts of the connector separated. Fig. 3 shows a longitudinal sectional view of the device. Fig. 4 illustrates a similar view of a slightly modified form of device. Fig. 5 shows an end view of the plug or insertible member of the connector, and Fig. 6 illustrates a cross-sectional view of the device,—the section being taken on the line 6—6 of Fig. 3.

Referring to the drawing by numerals, 1, designates the socket-member of the device and, 2, the plug-member thereof, it being understood that the completed connector comprises two parts, one of which fits into and engages the other.

The socket-member, 1, comprises an inner metal bushing, 3, having a tapered recess or chamber, 4, extending longitudinally therein and a central longitudinal passage, 5, which extends from the outer end of said bushing and opens into the smaller end of said recess or chamber. The inner or larger end of this bushing is provided with a series of longitudinal slots, 6, forming spaced-apart fingers, 7, at said end, as seen in Fig. 2.

A sleeve, 8, of insulating material surrounds the bushing and forms a covering therefor. This sleeve is longer than the bushing and projects beyond the outer end thereof while the inner end of said insulating sleeve is provided with spaced-apart fingers, 9, which project over and cover the fingers, 7, of the bushing. These fingers, 9, are provided with beveled ends, 10, whereby to form a complete and tight covering when engaging the socket member as will presently be described. A circumferential groove, 11, is provided on the exterior of each of the fingers between the two ends of said fingers.

The wire, 12, to be connected to the socket-member, 1, is passed through the central passage, 5, of the bushing and projected into the chamber, 4, and a tapered thimble or shell, 13, is then inserted over the end of the wire, and the latter is then secured in said thimble, preferably by means of solder, 14, which is poured into the thimble. By this means the wire is secured in the thimble or shell and can not be drawn back through the passage, 5.

The plug-member, 2, of the connector is also provided with a metal bushing, 15, having a longitudinal central chamber, 16, and a passageway, 17, at the outer end leading into said chamber. This bushing is provided at its inner end with a plurality of longitudinal slots, 18, forming a plurality of yielding or spring fingers, 19, which latter, when the two members are connected, will project into the tapered recess, 4, of the socket-member bushing and will contact with the walls thereof.

The wire, 20, to be connected to the plug-member passes through the passageway, 17, and is secured by solder in a thimble or shell, 21, in the chamber, 16.

An insulating sleeve or covering, 22, surrounds the outer end of the bushing, 15, but leaves the yielding fingers, 19, uncovered. This sleeve, like the sleeve, 8, of the socket-member, is provided with spaced-apart fingers, 23, having beveled ends, 24, and circumferential grooves, 25.

After the wires have had their ends secured in the two members the plug-member will then be inserted in the socket-member and the two pushed together until the fingers of one will fit between the fingers of the other and the beveled ends of the fingers on one member will project beyond the inner ends of the fingers of the other member, thus insuring a perfect covering for the two members, as can be seen in Fig. 3. When the two members have thus been interlocked the circumferential grooves on the two sets of fingers will aline and form a continuous groove around the exterior of the connector as clearly seen in Fig. 1. A wire, 26, is then

wound around the interlocked fingers and in the groove and serves to prevent the two members from being separated by vibration or otherwise. It will thus be seen that the connection of the two wires is made without employing screws or devices of any character which may work loose by vibration.

In the device shown in Fig. 4 the modification consists only in the manner of securing the wires in the bushings. In this device end recesses, 27, are provided in the bushings, 28, and the wires are secured in said recesses by pouring solder, 29, therein and around the wire.

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

1. An electric wire connector having a socket-member and a plug-member; an insulating covering around each of said members and the adjoining ends of said coverings having intermeshing fingers and means for engaging the fingers on the two coverings to hold the members together.

2. An electric wire connector having a socket-member and a plug-member; wires attached to said members; an insulating covering around each of said members,—said coverings having fingers and each finger being provided with an exterior groove which latter when the two members are joined, will register and form a continuous circumferential groove around the two members, and means extending around the grooves of all of said fingers to hold the coverings and members together.

3. An electric wire connector having a socket-member provided at one end with fingers; a wire connected to said socket-member; a plug-member having a yielding plug to enter the socket-member and also having fingers to intermesh with the fingers of the socket-member; a wire connected to the plug-member, and means engaging the fingers of both members to lock the two together.

4. An electric wire connector having a socket-member provided at one end with longitudinally-extending metal fingers; a wire connected to said socket-member; an insulated covering around said socket-member and also having fingers that project over and cover the metal fingers of the socket; a plug-member having a plug to enter the socket; an insulating covering for said plug-member and also having fingers to project between and intermesh with the fingers of the socket covering; a wire connected to the plug-member, and means for securing the intermeshing fingers of the two insulated coverings together.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES J. G. KEINER.

Witnesses:
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