

P. CLERGET.
CONNECTOR FOR ELECTRIC LEADS.
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Fig. 1.

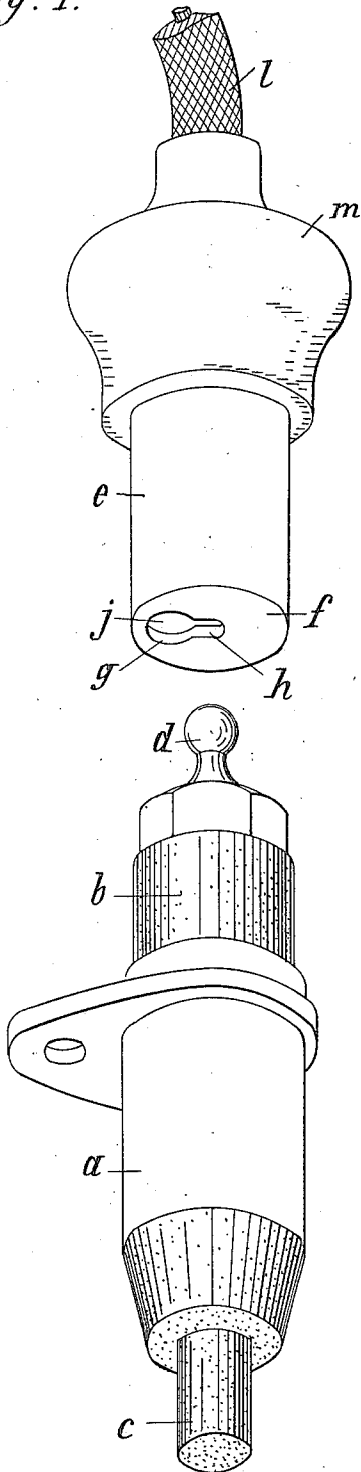
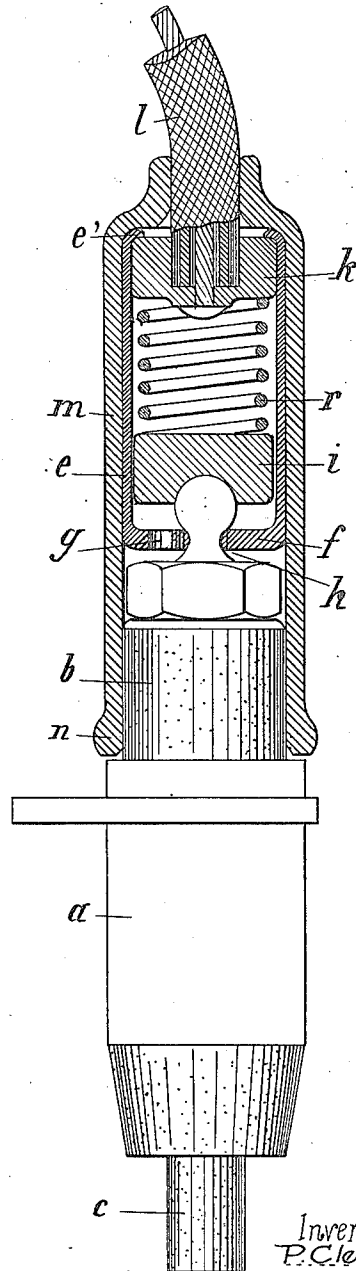


Fig. 2.



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CONNECTOR FOR ELECTRIC LEADS.

1,236,404.

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To all whom it may concern:

Be it known that I, PIERRE CLERGET, a citizen of the French Republic, residing at No. 37 Rue Cavé, Levallois-Perret, Seine, France, have invented certain new and useful Improvements in Connectors for Electric Leads, of which the following is a specification.

This invention has for its object to provide an improved connector for electric leads which will allow of enabling an electric wire, cable or lead (hereinafter referred to as "lead") to be connected with a terminal adapted to receive said lead, instantly and with the use of one hand, without requiring the operation of a screw or other equivalent fastening device.

The invention consists substantially in forming one half of the connector with a knob adapted to be engaged through a buttonhole-shaped aperture in the other half of the connector in order to make electrical contact with a spring-contact contained in said other half.

The manner in which this invention is to be performed will now be more particularly described with reference to the accompanying drawings which illustrate by way of example a practical construction of apparatus according to this invention.

In these drawings:—

Figure 1 is a perspective view on an enlarged scale of the two halves of the improved connector separated from each other, and

Fig. 2 is a longitudinal section showing the two halves assembled together to form the improved connector.

As shown, the improved connector comprises the terminal proper consisting of a cylindrical metal part *a* fixed on the machine (motor or any other electrical apparatus) to which it is desired to supply current. This part *a* is fitted with a block of insulating material *b* in which there is mounted a spring brush *c* designed to come in contact with one of the moving parts of the current distributor, which may be of any suitable construction.

A peculiar feature of this terminal consists in that the block *b* carries a spherical knob *d* designed to engage the other half of the connector.

This said other half of the connector consists of a small socket *e* having at one end

an end wall *f* formed with an aperture *g*, *h*, resembling a buttonhole composed of an eccentric hole *g* having a diameter equal to the diameter of the knob *d* and extending toward the middle of the end wall *f* in the form of an elongated aperture *h* of less width. In the socket *e* there is arranged a cylindrical abutment *i* formed with a central cavity *j* of spherical curvature corresponding to that of the knob *d* and having well rounded edges. This abutment *i* is subjected to the action of a spring *r* which has a tendency to force it against the end wall *f*, and which is arranged in the socket *e* between the said abutment *i* and a metal cap *k* to which the lead *l* is attached. This cap is held in the socket *e* by means of the beaded-over edge *e'* of that end of the socket that is farthest from the end wall *f*.

In order to connect the two halves of the improved connector as shown, it is merely necessary to bring the socket to which the lead *l* is attached, close to the terminal by inserting the knob *d* of this terminal in the buttonhole *g*, while exerting a certain amount of pressure in the direction of the length of the connector sufficient to overcome the resistance of the spring *r*.

As soon as the abutment *i* against which the knob *d* is pressed, is pushed back to a slight extent, the said knob *d* will slip over the rounded edge of the cavity *j* and will engage this cavity while the stem of the knob *d* will enter the narrow portion *h* of the buttonhole. On then leaving the parts to themselves, the spring *r* will have a tendency to keep the knob *d* well into the aperture *h* in the socket, and against the inner end of the cavity in the abutment *i*, so that a perfect electrical contact will be efficiently maintained.

Any pull upon the lead *l* will be unable to separate the two halves of the improved connector. In order to undo the connector it is merely necessary to press upon the socket *e* so as to move it radially while pushing it so as to overcome the resistance of the spring *r*. By this combined double movement which can be easily performed with one hand, the spherical knob *d* will slip over the rounded edge of the cavity *j* and will come opposite the hole *g* through which it can pass out, this latter movement being facilitated by the pressure of the spring *r* which tends to force the knob outward.

The improved connector may be supplemented by a flexible sheath *m* of rubber slipped over the socket *e* and the corresponding end of the lead *l*. This sheath is made sufficiently long to cover the terminal when the two halves are assembled together so that the said sheath contributes also to assure a good connection of the assembled halves.

10 This sheath *m* ends in a bead *n* which facilitates its being turned inside out over the socket *e*, as shown in Fig. 1, in the operation of separating the two halves of the improved connector.

15 This sheath *m* when turned back again over the two halves of the connector in their assembled condition, will prevent the access of water to the interior of the parts of the improved connector, so that these parts will always be protected from oxidation and therefore the best conditions of contact for the passage of the electrical current will always be maintained.

20 It is to be understood that the constructions hereinbefore described are given solely by way of example, and that the forms, dimensions, constructional details and purposes of use may be varied without departing from the nature of the invention.

30 What I claim is:—

1. In an electric connector, the combination of a connector spigot provided with a contact knob, a connector socket formed in its front end with a buttonhole aperture, and a spring contact piece movable in said socket, electric connection being made and broken by respectively inserting and removing said contact knob through said buttonhole aperture into and out of contact with said spring contact.

40 2. In an electric connection, the combination of a cylindrical connector socket formed in its face end with a buttonhole aperture having its round portion eccentric and its slot portion central to the longitudinal axis

of said socket, a contact block slidable in said socket, having in its face end a rounded recess with flaring edges, a spring located between said contact block and the rear end of said socket, a connector spigot longitudinally and radially movable with relation to said socket, and a contact knob on the face end of said connector spigot, whereby in order to close the connector said connector spigot is moved first longitudinally toward said socket so as to push said knob through the eccentric round portion of said buttonhole aperture in opposition to said spring, and is then moved radially so as to bring the shank of said knob into the central slot portion of said buttonhole aperture, whereby said knob is caused automatically to enter the recess in said contact block in said socket and thus be held firmly in electrical connection therewith.

3. In an electric connector, the combination of a cylindrical connector socket formed in its face end with a buttonhole aperture having its round portion eccentric and its slot portion central to the longitudinal axis of said socket, a contact block slidable in said socket, having in its face end a rounded recess with flaring edges, a spring located between said contact block and the rear end of said socket, a connector spigot longitudinally and radially movable with relation to said socket, a contact knob on the face end of said connector spigot, and an outer elastic sheath of flexible waterproof material mounted on said socket and adapted to be slipped over the joint between the connector halves, whereby access of water to the internal parts of the socket is prevented, and the coupled connector parts are further held firmly together; said sheath being slipped back over said socket when the connector halves are disconnected.

In testimony whereof I have signed my name to this specification.

PIERRE CLERGET.