

No. 888,893.

PATENTED MAY 26, 1908.

J. E. R. HAYES.  
CORD GRIP FOR MECHANICAL OR OTHER FIXTURES.

APPLICATION FILED APR. 13, 1906.

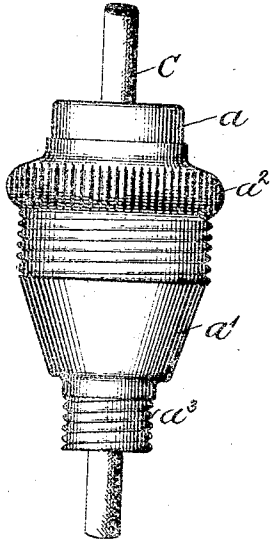


Fig. 1.

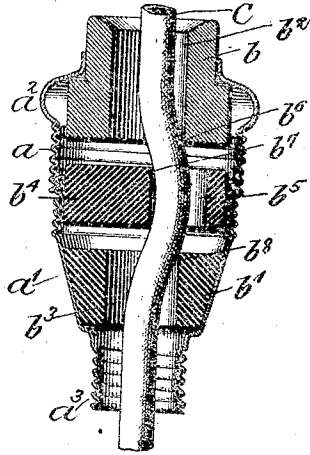


Fig. 2.

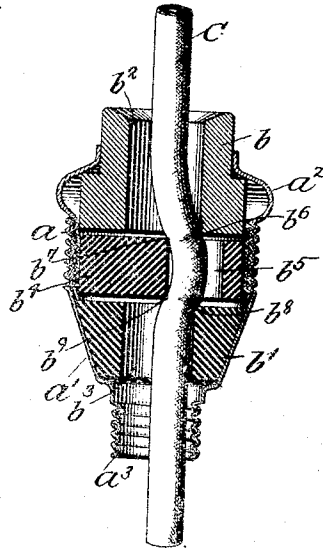


Fig. 3.

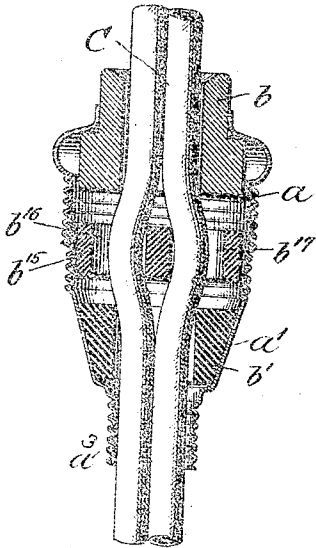


Fig. 4.

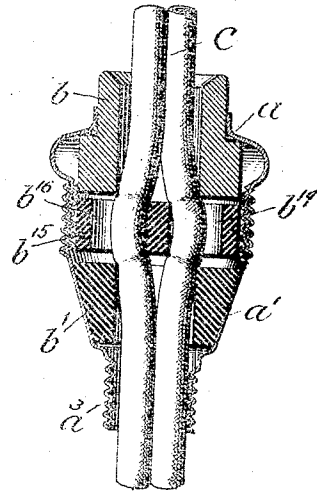
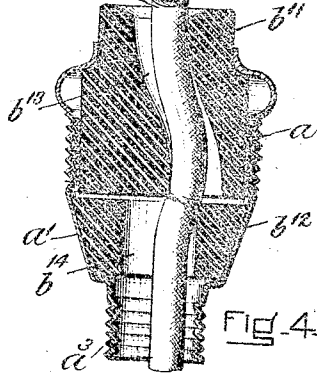


Fig. 6.

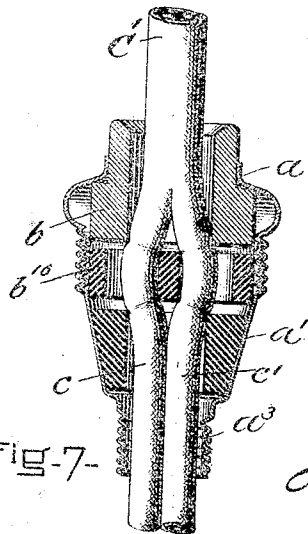


Fig. 7.

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## CORD-GRIP FOR MECHANICAL OR OTHER FIXTURES.

No. 888,893.

Specification of Letters Patent.

Patented May 26, 1908.

Application filed April 13, 1906. Serial No. 311,438.

To all whom it may concern:

Be it known that I, JOHN E. R. HAYES, of Melrose, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Cord-Grips for Electrical or other Fixtures, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

My invention relates to an improvement in cord gripping means or devices especially adapted to be used in connection with electrical fixtures for relieving the terminals or binding posts from strains upon the conducting cord connected therewith, which strains upon the cord unless relieved might tend to strip the cord from the terminals. Such a device is capable of use under a great variety of circumstances which are well known to those skilled in the art.

My invention consists essentially in a new way of obtaining the cord grip.

The essential object of my invention is to provide a grip which can be very economically made and one, also, which is especially effective in performing the function for which it is adapted.

In the drawings:—Figure 1 shows the device in side elevation. Fig. 2 shows the same in vertical section with the operative parts thereof in a disengaging position with respect to the conducting cord. Fig. 3 shows a vertical section of the device with the operative parts in an engaging position with respect to the conducting cord. Fig. 4 shows in vertical section a modification of the device to which reference will hereinafter be made. Figs. 5 and 6 show in vertical section still further modifications, Fig. 5 showing the operative parts in disengaging position with respect to the conducting cord and Fig. 6 the same in engaging position therewith. Fig. 7 shows in vertical section the same construction as shown in Fig. 5, a larger size of conducting cord being used for engagement with which the device is peculiarly adapted, as will hereinafter be explained.

Before referring to that portion of the device comprising the cord grip proper, I shall refer to the exterior or casing thereof which forms a part of or connects with some fixture of support, and by means of which the interior parts forming the cord grip proper are

brought into an engaging position with respect to the conducting cord, as will hereinafter be explained.

The form of casing which I have chosen to illustrate my invention consists of two hollow parts  $a$  and  $a^1$  making threaded connection with one another. I have shown the part  $a$  as screwing onto the part  $a^1$ , which part  $a$  is preferably provided with a milled, annular, projecting or boss portion  $a^2$  by which the screwing together of the parts may be more easily effected. The part  $a^1$  may have a threaded extension  $a^3$  by which it may be made fast to some fixture of support, or it may be made a part of such fixture as circumstances of user may determine. The two parts forming the casing may have any desired configuration. They are, however, made contracted in part, or so as to contain within or carry with them the two opposing members or bushings  $b$  and  $b^1$  having holes or openings in them through which the conducting cord  $C$  is passed. The member  $b$  has a hole  $b^2$  and the member  $b^1$  has a hole  $b^3$ . These members fit snugly within the parts of the casing within which they are contained, and are separated from one another leaving a space between them. Within this space is contained a member  $b^4$ . This member fits snugly within the casing as against lateral play, but loosely between the members  $b$  and  $b^1$ , that is, when the two parts of the casing are unscrewed as shown in Fig. 2, but with an adaptation such that when the two parts of the casing are contracted by screwing them together as shown in Fig. 3, then the members will fit snugly together.

In the grip-forming member  $b^4$  is a hole or opening  $b^5$  through which the conducting cord is passed. This hole  $b^5$  it is to be noted is not in alinement with the holes through the other members through which the conducting cord passes, but is offset therefrom. The amount of the offset is preferably such that when the member  $b^4$  is loosely contained within the bushings, as is shown in Fig. 2, the conducting cord may be drawn through the member  $b^4$  in either direction, but when the threaded parts of the casing are tightened and the members fit snugly together or in an engaging position as shown in Fig. 3, then the holes in the members being offset will overlap one another only in part forming a contracted opening through which the cord passes, on which account the edges

of the members around the opening will grip the cord. Of these gripping edges forming the contracted opening or openings, as shown in Fig. 3, the edge  $b^6$  of the member  $b$  grips the cord on the one side opposite to the engagement of the edge  $b^7$  of the member  $b^4$  while the edge  $b^8$  of the hole in the bushing  $b^1$  engages the cord opposite to the engaging edge  $b^9$  of the member  $b^4$ . The essential point in this construction is that of offsetting the holes in the members through which the cord passes and making the offset such that when the members are brought together, the opening left will be so small that those portions of the members forming the contracted opening will grip the cord passing through it.

In Fig. 4 I have shown a slight structural change in that but two members are employed to grip the cord, where before three members were so employed. These members are illustrated as  $b^{11}$  and  $b^{12}$ . They are in fact bushings fitting snugly within the casing, having holes or openings through them, through which the conducting cord extends.  $b^{13}$  is the hole through the bushing  $b^{11}$  and  $b^{14}$  is the hole through the bushing  $b^{12}$ . These holes or openings are offset from one another so that when the members are brought together the holes will lap by one another making a contracted opening, whereby portions of the edges of the members forming the opening will bind the conducting cord in the manner before explained. In order that the conducting cord may issue centrally from the casing or bushing instead of at one side, as it would naturally do with the hole in the bushing offset, the hole  $b^{13}$  is made curved, this providing the offset and enabling the cord to issue in the manner before indicated.

The preferable construction is the one first referred to, although the one just described shows that the invention may be practiced by a two-member construction, the principle of operation remaining the same.

In Figs. 5 and 6 I have shown a slightly modified construction where there are employed three members within the casing, as above first explained, but the interposed member has in it two offset holes or openings for the reception of the conducting cord instead of one hole.  $b^{15}$  represents this member and  $b^{16}$  and  $b^{17}$ , respectively, the holes or openings through it. The operation of gripping the conducting cord is substantially the same as first described. It makes a very desirable construction in that the conducting cord usually comprises two parts and by providing the interposed grip-forming member with two holes or openings in it a positive grip is provided for each part of the conducting cord. This construction last referred to is peculiarly adapted for large conducting cords made up of separate cords. A large cord could not be conveniently used

with the construction first mentioned. By splitting the cord and loosening the separate cords within it the construction in which the interposed or grip-forming member has two holes within it can be very conveniently employed. Such adaptation I have shown in Fig. 7 in which the main conducting cord C is split, loosening the two separate cords  $c$  and  $c'$  of which it is made up, and these are passed down through the grip-forming member having two holes or openings within it, showing the adaptability of such a construction, especially for large cords.

The usual operation of using the device is to pass the cord through one member inside one part of the casing, then through the interposed member, after which the cord is passed through the member in the other part of the casing, and the two parts of the casing are then partly screwed together. The interposed member will still be loose within the casing on which account the cord can be drawn in either direction or to any point of desired position. After which, upon further tightening the two parts of the casing, the grip-forming members are drawn snugly together, gripping the cord in the manner before explained.

The device is very simple and it provides a positive grip the efficiency of which increases as the tension upon the cord increases. The grip-forming member can be very easily and economically made. The grip is obtained simply by forming holes or openings in said members. Moreover, when used with an electrical conducting cord the members may be made of an insulating material providing an absolute insulation.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States:—

1. A device of the character specified having cord-gripping members each with an opening in it for the reception of a cord passing through said members and which openings in said members are offset with respect to one another whereby there is obtained between the members a contracted opening when said members are brought together and through which the cord extends, said contracted opening being formed by opposing portions of said separate members around the said openings therein which act to bind and hold said cord, and means for bringing the members together for forming such contracted opening.

2. A device of the character specified having a casing, cord-gripping members adjacent to one another in said casing, said members each having an opening in it for admitting the passage of a cord through said members and which openings in said members are so arranged relatively to one another that opposing portions of said members forming in part the said openings therein may bind said

cord between said members when the members are made to approach one another in said casing.

3. A device of the character specified having a casing, grip-forming members fitting snugly within said casing against else than a longitudinal movement towards and from one another, said members each having an opening in it for the reception of a cord passing through said members, which openings are out of line with one another but overlapping one another in part whereby said members may, when said members are made to approach one another in said casing, grip the cord between them by opposing portions thereof forming in part the said openings thereon.

4. A device of the character specified having a casing the parts of which have threaded connection with one another, grip-forming members inside said casing, said members each having an opening in it whereby a cord may pass through said members, the openings in said members being offset with respect to one another whereby there is formed between the members, when the members are brought together, a contracted opening through which the cord extends, said contracted opening being formed by opposing portions of said separate members around said openings therein which act to grip and hold said cord and which members are

brought together to form said contracted opening by screwing together the separate parts of the casing.

5. A device of the character specified having grip-forming members each having an opening in it by which a cord passes through said members, the opening in the interposed one of said members being offset with respect to the openings in the others of said members but overlapping the same in part whereby contracted openings are formed between said members when the members are brought together and through which contracted openings the cord is adapted to extend to be gripped and held by opposing portions of said members forming in part the openings therein.

6. A device of the character specified having grip-forming members with openings in them through which a cord passes, one of which members has a plurality of openings therein offset with respect to the openings in the other of said members, whereby contracted openings are formed when the members are brought together into an engaging position, and means for bringing them thus together into an engaging position.

JOHN E. R. HAYES.

In presence of—

GEORGE O. G. COALE,  
M. E. FLAHERTY.