

W. C. TREGONING.
ATTACHMENT PLUG FOR ELECTRIC WIRES.
APPLICATION FILED NOV. 18, 1909.

1,005,119.

Patented Oct. 3, 1911.

Fig. 1.

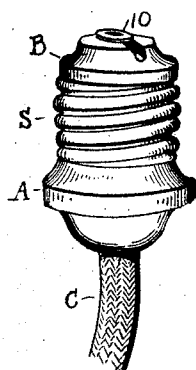


Fig. 2

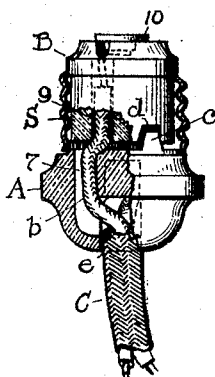


Fig. 3.

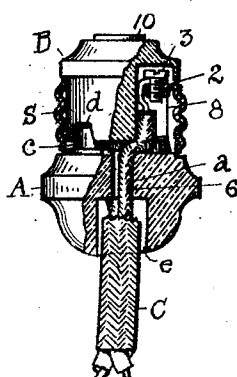


Fig. 5.



Fig. 4.

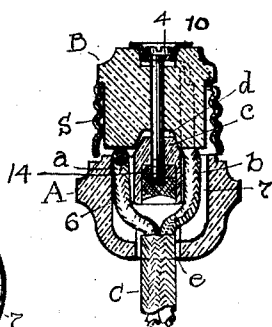


Fig. 6.

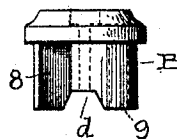


Fig. 7.

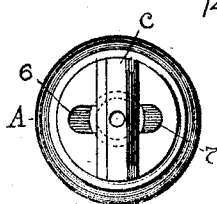


Fig. 8.

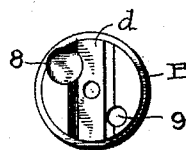
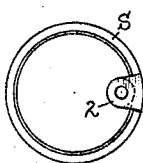


Fig. 9.



ATTEST
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UNITED STATES PATENT OFFICE.

WILLIAM C. TREGONING, OF CLEVELAND, OHIO, ASSIGNOR TO THE TREGONING ELECTRIC MANUFACTURING CO., OF CLEVELAND, OHIO, A CORPORATION.

ATTACHMENT-PLUG FOR ELECTRIC WIRES.

1,005,119.

Specification of Letters Patent.

Patented Oct. 3, 1911.

Application filed November 18, 1909. Serial No. 528,675.

To all whom it may concern:

Be it known that I, WILLIAM C. TREGONING, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Attachment-Plugs for Electric Wires, of which the following is a specification.

My invention relates to attachment plugs for electric wires, and the invention consists in a plug constructed substantially as shown and described and adapted to relieve the terminal connections of the wires from strain in case of tension on the wires which would otherwise pull the wires out of their fastenings and whereby the strain is taken entirely off said fastenings and transferred to fixed portions of the attachment where there is strength to withstand the strain.

In the accompanying drawings, Figure 1 is a side elevation of the plug complete with the wires therein. Figs. 2 and 3 are sectional elevations of the plug on different lines respectively and showing the special manner in or by which the respective wires of the strand are pinched or gripped between the members of the plug. Fig. 4 is a central sectional elevation of the plug on the line of the screw locking said members together and showing the two wires separately locked therein. Fig. 5 is a sectional elevation of the threaded shell of the plug, and Fig. 6 is a detail of the upper or inner member of the plug. Fig. 7 is a plan view of the lower member of the plug and Fig. 8 is a bottom view of the upper member. Fig. 9 is an end view of the threaded shell of the plug.

The foregoing views represent an attachment plug for electric wires, and belongs to the style or variety of plugs which are provided with threaded or equivalent connections adapted to screw into sockets provided therefor but not shown herein. The screw shell S shown in several of the views serves as such connecting member for the plug and also a conducting medium for the current from the seat 2 therein for terminal binding screw 3, and said shell is mechanically engaged at its edge between annular offsets or shoulders about the outside of the respective members A and B of the plug as plainly seen in several figures. A single screw 4 secures all the said parts together, as herein-after described.

Now, in order that any pull or strain on

the strand or cable C, which comprises the wires *a* and *b*, shall not come on the immediate terminal connections within the plug I employ a special but simple construction of separable plug members as represented in and by the parts A and B. These members or parts may be made of any suitable non-conducting material and are constituted to engage or clamp the wires *a* and *b* contained in cable C between them in such way that the said wires shall be bent and firmly gripped and held thereby regardless of other fastenings at their terminal ends beneath the heads of binding screws 3 and 4. Thus, the said member A, which is also regarded as the base of the plug, is provided with a central opening *e* for the introduction of cable C and with forked openings, passages or bores 6 and 7 extending therefrom and adapted to receive the separate wires *a* and *b*. These forked or divided bores or openings extend through the said member upon opposite sides of the central rib or tongue *c*, and the said rib has beveled or inclined sides and is adapted to match a corresponding groove or channel *d* located in the meeting face of member B. This groove or channel has about the same depth as said rib, lug or projection *c* and in this instance is likewise beveled at its sides and adapted to work with said rib to rotate said members slightly in the operation of gripping and bending the said wires *a* and *b*. Member B also has openings 8 and 9 respectively through the same for said wires and said openings are on opposite sides of channel *d* and disposed at an angle to the sides thereof of approximately forty five degrees more or less and out of alinement with or offset from the holes or passages 6 and 7 in member A relatively about as shown, thus causing a shoulder or abrupt bend to be made in the wires at their passage from the holes 6 and 7 to the holes 8 and 9 and through which said wires must be threaded to make connection with or at binding screws 3 and 4. To this end the holes or bores 6 and 7 are placed directly opposite each other on opposite sides of rib or lug *c* and at right angles thereto while the holes 8 and 9 are offset therefrom substantially as shown so as to deflect or form a bend in the wire in the space between members A and B and thus facilitate the gripping effect. This also produces something of a torsional effect re-

tarilly between said members when tightened together by screw 4 because the beveled tongue and groove construction tends to rotate said members in respect to one another which movement manifests itself where the wires pass from one set of holes to the other to make more or less of a right angled bend in the wires, as seen in Figs. 2 and 3. Thus, assuming that the wire members A and B have been related so as to thread the wires *a* and *b* through the same, the rib *c* and channel *d* obviously will be slightly out of alinement. Then as the member B is rotated to seat said matching portions *c* and *d* one within the other the wires *a* and *b* are necessarily bent to bring about such change, and this occurs at the time alinement is effected but before the screw 4 is fully tightened. Then as the said screw is turned the beveled sides on said rib and groove come into action and the edges of said parts A and B about said bores pinch and bend the said wires more or less tightly according as the said parts are drawn together. This pinching or gripping of the wires is designed to be so effective that the wires will be immovably held thereby and cannot be pulled out, and thus I entirely relieve the connections at the binding screws from all strain and accomplish the object I have in view without resorting to supplemental devices which are subject to disarrangement or accidental displacement.

It will be observed that the central screw 4, which is also described as a binding screw, is intended also as a clamping screw for the two parts A and B and passes centrally through part B into engagement with nut 14 in part A. This nut is usually sealed in place by suitable insulating material, such as wax or a compound.

The opening or passage 8 for wire *a* is of the nature of an open groove or channel in the side of member B so as to make a slip connection at that point with inturned lip 2 of shell S available. Inturned lip 2 when in place within passage 8 holds shell S from rotating independently of member B, and the rib or lug *c* and channel *d* prevent independent rotation of members A and B when the said parts are fully clamped together. Obviously said rib *c* and channel *d* might be reversed as to the parts A and B and be the equivalent of the present arrangement and other changes might be made in the details of the device such as dispensing with the beveled sides of the rib and groove without departing from the spirit and essence of the invention. Thus also the so-called rib, tongue or projection on member A need not necessarily extend entirely across the face of said member but the present construction is preferred, nor is it absolutely necessary to offset the wire openings in the exact measure as shown. Fig. 4 especially

shows wire *b* as being bound by end contact cup or disk 10 and screw 4, while wire *a* is bound by screw 3 on the struck-up seating portion 2 therefor in shell S. This portion 2 is struck up out of the side of shell S and bent at right angles thereto to provide a depressed seat for screw 4 below the plane of the upper end edge of the shell, thereby forming a pocket for the head of binding screw 3 and the terminal ends of wire *a*.

Member A is preferably larger in diameter in part than member B to permit gripping by the hand in screwing the plug into a lamp or other socket. The threaded portions of shell S must also necessarily be of greater diameter than member B to permit its introduction into the socket.

What I claim is:

1. An attachment plug for electric wires comprising two members adapted to be clamped together, one of said members having a beveled tongue and the other a groove to receive said tongue and provided with bores on opposite sides of said tongue and groove respectively out of alinement as between said members, a screw uniting said members and a socket engaging shell about the members.

2. An electrical attachment plug comprising two interlocking separable members, a current connecting screw shell sleeved upon and secured in place by and between said members and a central screw forming a terminal contact adapted to clamp said parts together.

3. An electrical attachment plug comprising two separable members, each having openings therein for the terminal wires, a current conducting screw shell, means to partially rotate said members in respect to one another to bend the wires when said parts are clamped together, and a screw to detachably clamp said parts together.

4. An electrical attachment plug comprising two members having interlocking portions and provided with openings for the electric wires, a current conveying screw shell having an inturned portion to form a terminal connection for one of said wires, and one of said members having a side channel to confine and hold said inturned portion and therethrough prevent independent rotation of said shell, and means to detachably clamp said parts together.

5. In electrical attachment plugs, a current conducting screw shell having an inturned portion struck up from its side at one edge to provide a pocket and seat for a terminal connection.

6. An electrical attachment plug comprising separable members having peripheral offsets, a current conducting screw shell sleeved upon and secured between said members by said offsets and having an inturned portion struck up from the side thereof at

one edge to provide a pocket and seat for a terminal connection, and a current conveying clamping screw to detachably secure said parts together.

5 7. An electrical attachment plug comprising two members of insulating material having interlocking meeting faces and provided with annular shoulders externally, a current conveying screw shell secured between
10 said members by said annular shoulders and having an inturned portion to provide a terminal connection, an end contact disk and a terminal binding and clamping screw centrally of said members to detachably secure
15 said parts together, and said members having oppositely disposed openings therein, but out of alinement in respect to each other to provide binding shoulders at said meeting faces, whereby the wires are bent and
20 gripped between said members to relieve pulling strains on the terminal connections within said plug.

8. An attachment plug for electric wires comprising two cylindrical members having
25 their respective meeting faces constructed with interlocking means to cause a small relative rotation when the members are drawn together, one of said members having

a longitudinal groove and bore therein and the other member having a forked opening therethrough in offset radial relation to said groove and bore in said first member, and means to draw said members together. 30

9. An attachment plug for electric wires provided with an outer screw shell adapted
35 to make socket connection and two members having flat end faces mounted oppositely and provided with opposed beveled portions adapted to interlock rotarily and each of
40 said members having openings through the same out of alinement with each other and providing overlapping gripping edges in close seating relation at the meeting faces of
45 said members, electric wires through said openings having their terminals fixed in one of said members and means to draw said
50 members together longitudinally to bend and pinch the wires between said overlapping edges and relieve their terminals of possible strain.

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

WILLIAM C. TREGONING.

Witnesses:

E. M. FISHER,

F. C. MUSSUN.