W. C. TREGONING.
ELECTRICAL CONNECTION.
APPLICATION FILED DEC. 9, 1912.

1,203,816.

Patented Nov. 7, 1916.

Fig. 1

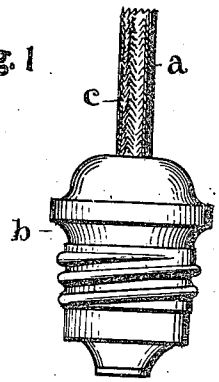


Fig. 2

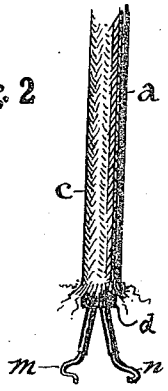


Fig. 3

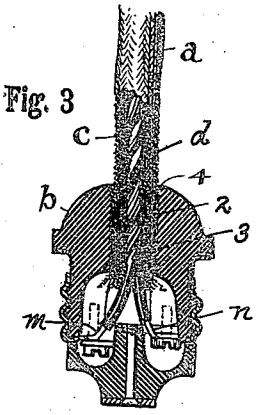


Fig 4

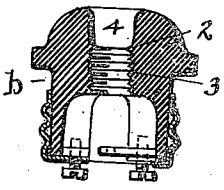


Fig. 5

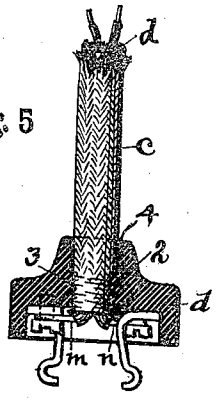


Fig. 6

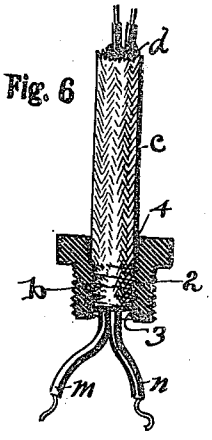


Fig. 7

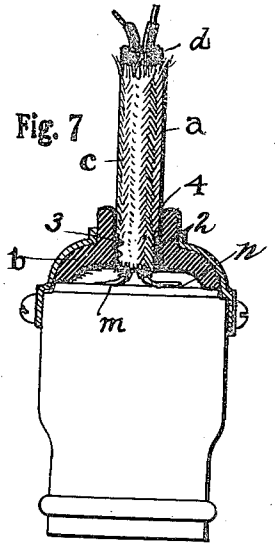


Fig. 8

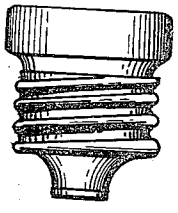
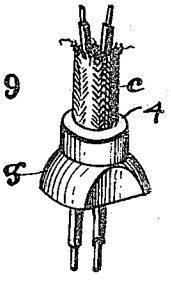


Fig. 9



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UNITED STATES PATENT OFFICE.

WILLIAM C. TREGONING, OF CLEVELAND, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO BENJAMIN ELECTRIC MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ELECTRICAL CONNECTION.

1,203,816. Specification of Letters Patent. Patented Nov. 7, 1916.

Application filed December 9, 1912. Serial No. 735,870.

To all whom it may concern:

Be it known that I, WILLIAM C. TREGONING, 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 Electrical Connections, of which the following is a specification.

My invention relates to electrical connections, and the object of the invention is to relieve the strain that comes upon the wires or terminals in such connections as hitherto made in plugs for electrical lights and the like, all substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a screw plug for an electric lamp socket, the insulated electrical cord being also shown as part thereof. Fig. 2 is a side view of a standard insulated and fabric-covered wire or cable. Fig. 3 is a central sectional elevation of Fig. 1, and Fig. 4 is a sectional elevation of the plug shown in Figs. 1 and 3. Figs. 5 and 8 show my invention embodied in a separable screw-plug; Fig. 8 shows the body of the plug, whereas Fig. 5 shows the cap. Figs. 6, 7 and 9 show other forms of devices to which the invention has been applied, all as hereinafter fully described.

The invention as thus shown resides chiefly in the so-called strand *a* as combined with the plug or other member or element *b* in or with which the said strand is engaged, and the object of connecting the said parts operatively together as shown herein is to relieve the terminal connections for the said strand of the excessive strain which is liable to come upon them when the said terminals have no other or auxiliary means of support but their own fastenings and which are liable to be loosened or pulled out by accident or otherwise. All the several views therefore involve or contain the invention in its essential character, although the said member or element *b* differs in external shape or form when compared figure with figure throughout the views. The essential feature present in all forms of the invention consists, as already indicated, in the flexible compressible strand *a* with its wires *m* and *n* and in the non-conducting or insulating element or part *b* which may be made of hard rubber, fiber, porcelain or non-conducting composition of any suitable kind and which has a central bore for engagement of the said strand therein in such manner that any pull on the strand will be through it on the said part *b* and not on the said terminals. The said wires *m* and *n* are separately covered by a suitable insulation of their own and in this form are inclosed by a more or less resilient embodiment or covering *d* which usually is made of insulating material, such as rubber or an equivalent composition, and which may be as heavy as the service shall require and will afford the desired protection to the wires and give strength to the fastening in the plug or element *b*. A woven fabric cover C is also usually part of this strand, which is of a standard kind in general use.

I do not claim any novelty in the strand or connection itself as such or alone; but I do claim that novelty and utility reside in the use of a strand when used with an insulating plug or equivalent element made of insulating material having a round bore or opening 2 of substantially the same diameter as said strand and wherein a screw thread 3 is provided which is of a diameter to compress and embed itself into the strand with the definite object in view of firmly affixing the strand and element together. The socket or bore containing the said thread is further peculiar and original in this, particularly, in that it has a plain or unthreaded introductory portion 4 for the said strand and has the said thread 3 in its lower or inner portion and not about its entrance. This construction is advantageous with a strand having a woven covering C because the ragged and loose ends 5 (see Fig. 2) can be easily entered into the bore where they will be confined and compelled to follow the lead of the screw thread 3 and be pressed into the resilient body *d* of the strand in making a practical screw-locking engagement therewith. This produces the exact effect I am seeking because by the combination of the plug and strand as shown I accomplish the direct object of locking the strand in the plug against accidental or like withdrawal or release and thus relieve the terminal connections of all strain. In other words the possible strain by pull, weight or otherwise upon the strand cannot

reach the terminal ends of the wires *m* and *n* but is borne exclusively by the said strand and the element *b* jointly.

Inasmuch as the covering of the strand *c* or possibly the entire embodiment thereof is made of fiber woven twisted, braided or otherwise wrought the ends of the fiber are liable to fray out and hence a smooth rounded and possibly enlarged entrance to the bore of the element *b* is really required in order to insert the strand in the element, and especially since the fit must be so close that the threads in the bore will bury themselves in the said covering and make the effect the same as if the covering also were threaded. This also prevents possible weakening or cutting of the strand at the point where it enters the plug and which naturally would be the wearing or breaking point thereof especially if the sharp thread continued to the outer edge. Element *b* is made in one piece and is therefore solid and strong and it is also made of insulating material to absolutely prevent a short-circuit of the electric current if the threads 3 should cut through and contact with the wires *m* and *n*.

What I claim is:

1. An insulating cord gripping device comprising a one-piece member of insulating material having a bore therethrough, said bore having a threaded portion for threaded engagement with the compressible insulating material of a conductor, a smooth portion for guiding said compressible insulating material into the threaded portion, and a rounded off edge to prevent injury to the insulating material due to the bending of the conductor.

2. An insulating cord gripping device comprising a one-piece member of insulating material having a bore therethrough, said bore having a threaded portion for threaded engagement with the compressible insulating material of a conductor, a smooth portion for guiding said compressible insulating material into the threaded portion, a rounded off edge to prevent injury to the insulating material due to the bending of the conductor, and an electrical contact carried by said member.

3. An insulating cord gripping device comprising a one-piece member of insulating material having a bore therethrough, said bore having a threaded portion for threaded engagement with the compressible insulating material of a conductor, a smooth portion for guiding said compressible insulating material into the threaded portion, a rounded off edge to prevent injury to the insulating material due to the bending of the conductor, and a binding post carried by said member.

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

WILLIAM C. TREGONING.

Witnesses:

E. M. FISHER,

F. C. MUSSUN.