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PATENTED AUG. 11, 1903.

O. E. KENNEY.

METHOD OF MAKING FIBER INSULATING LININGS FOR
INCANDESCENT LAMP SOCKETS.

APPLICATION FILED DEC. 31, 1902.

NO MODEL.

FIG. 1.

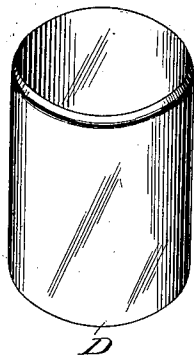


FIG. 2.

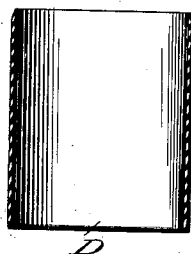


FIG. 3.

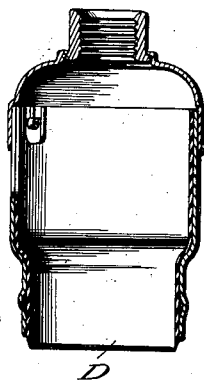
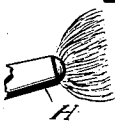
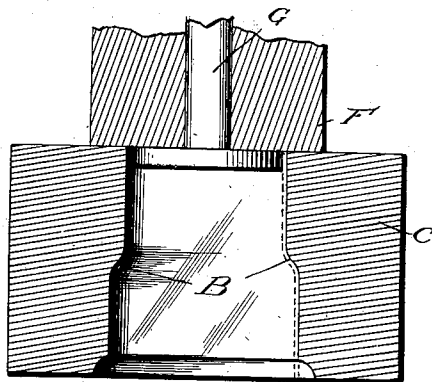
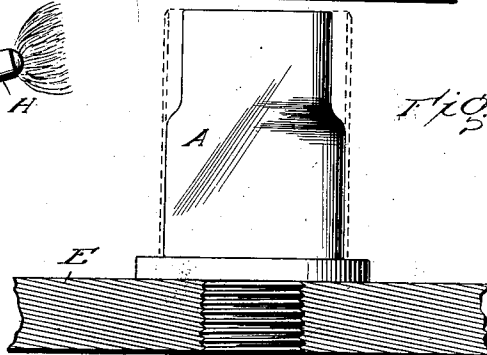


FIG. 4.

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UNITED STATES PATENT OFFICE.

OWEN E. KENNEY, OF TOLEDO, OHIO, ASSIGNOR TO THE YOST ELECTRIC MANUFACTURING COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

METHOD OF MAKING FIBER INSULATING-LININGS FOR INCANDESCENT-LAMP SOCKETS.

SPECIFICATION forming part of **Letters Patent No. 735,778**, dated August 11, 1903.

Application filed December 31, 1902. Serial No. 137,337. (No model.)

To all whom it may concern:

Be it known that I, OWEN E. KENNEY, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Methods of Making Fiber Insulating-Linings for Incandescent-Lamp Sockets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a certain new and useful method of manufacturing insulating-linings for the interior of the ordinary brass shell which constitutes the cover or case for incandescent-lamp sockets. Under the requirements of the trade and the demands of the underwriters it is required that these linings shall be so arranged within the brass shell as to constitute a perfect insulation and at the same time to be readily separable from the brass shell when desired. As a result of the ordinary method of manufacturing continuous or tubular linings from the material known in the trade as "fiber" the said linings when first placed within the shell at the place of manufacture are readily removable therefrom, but when shipped to various destinations it has been found that, owing to lapse of time and varying atmospheric conditions, supplemented by the rough or crimped condition of the fiber resulting from the reduction of diameter of the tube at one locality, said lining adheres so tenaciously to the brass shell as to render it difficult and frequently impossible to separate it therefrom without destroying the integrity of the lining. To avoid this difficulty, it has been suggested to construct a tubular lining from a flat sheet and to so cut or shape the blank that when rolled into the required tubular form the necessary different diameters may be secured without crimping or corrugating the fiber. Instances of this method of manufacture are found in Letters Patent Nos. 626,927 and 692,700; but while structures so made avoid the crimping or corrugations referred to the vertical edges of the blank when rolled into tubular form are held in contact by the sur-

rounding brass shell or cover, and as a consequence the degree of contact is variable according to the variability of the diameter of the fiber tubing and the inclosing brass shell, and hence the perfection of insulation is dependent upon relation that the adjacent edges of the insulating-lining bear to each other.

My invention has for its object to produce a fiber insulating-lining of continuous or integral construction which shall be free from crimps or corrugations and which shall be unaffected by atmospheric conditions, and hence constitute a perfect and reliable insulation and unvariable in its relation with the surrounding brass shell or cover.

With these ends in view my invention consists in the method of manufacture which I will now describe, referring by letters to the accompanying drawings, in which—

Figure 1 represents in perspective a tubular blank or section cut from an ordinary tube of fiber. Fig. 2 is a central vertical section of the same. Fig. 3 is a similar section with the lining secured in proper relation with the surrounding and protecting shell or cover composed of sheet-brass; and Fig. 4 is a central vertical section showing a male and female die and a heating device for the latter such as I preferably employ in my improved method of manufacture and showing in dotted lines the section or blank illustrated at Fig. 1 arranged upon the male die and in position to be acted upon by the female die.

Similar letters of reference denote like parts in the several figures of the drawings.

In manufacturing my improved insulator or lining I first cut from a tube of fiber having a diameter approximating the larger diameter of the brass shell or cover a blank about equal to that of the said shell, and, as shown in Figs. 1 and 2, one end of this blank is cut on an angle of about forty-five degrees. This blank I then place around and upon a male die A, having the configuration or shape which it is designed to impart to the fiber blank; and, as shown, the blank is arranged with the edge which is cut at forty-five degrees uppermost, so that when it meets the reducing-shoulder B of the female die C it will not be crushed or broken, but will be gradually

moved inwardly in an obvious manner to reduce the diameter of the upper portion of the tubular section or blank D. The male die may be secured by a screw-thread to any
5 suitable support or bed E and the female die to a reciprocating head F, provided with any suitable stripper or knock-out G. In
10 suitable relation with the reciprocating female die C is arranged, preferably, a gas-jet H, designed to heat the female die to about 150°
Fahrenheit, so that when the blank D is subjected to the action of the dies A C the upper
15 portion of the tubular blank D of fiber is reduced in diameter and under the action of the heat of the female die the constituent elements or fibers of the blank are neither
lengthened nor shortened, but are squeezed or compressed together and vulcanized, as it
20 were, so that the exterior surface of the thus reduced portion of the tubular blank D will be free from crimps or corrugation and present a smooth and compact surface both exteriorly and interiorly. When the blank has
25 been shaped between dies and under heat, as described, and removed by a suitable stripper or knock-out G or in any other manner, it is then placed in an oven and subjected to a
30 temperature of about 120° Fahrenheit for a period of about five minutes to put it in a condition to readily absorb and attach to itself a lacquer solution, into which it is plunged or
dipped while hot and immediately removed and set aside to cool and dry, and when so
35 cooled and dried the finished product will have perfectly smooth interior and exterior surfaces and, being proof against moisture or other atmospheric influences, will retain the shape and proportions given to it by the
40 action of the forming-dies, and hence when properly fitted within the brass shell at the locality of manufacture and properly adjusted thereto may be readily removable from the shell at any other locality or at any future time.

A lining made in accordance with my described method has not only the properties and advantages described, but, being of integral form, constitutes an absolute insulator and one having substantially the same degree of rigidity and durability of form or contour
50 as the surrounding brass shell within which it is located.

To prevent accidental separation of the lining from the brass shell during transportation or necessary subsequent handling, the
55 lining may be provided with two or more radial projections near the extremity of its smaller diameter adapted to spring into the usual rib or bead formed in the corresponding part of the brass shell.

Having described my improved method of manufacture and the advantages to be secured thereby, what I claim as new, and desire to secure by Letters Patent, is—

1. The method herein described of making
65 fiberinsulating-linings for incandescent-lamp sockets which consists in cutting from a tube of fiber sections of suitable length, with one edge at an angle of about forty-five degrees, then pressing said section into desired form
70 between dies and under a temperature of about 150° to compact and vulcanize the fiber, then baking the same for about five minutes in an oven at about 120° Fahrenheit, and finally while in a heated state subjecting the
75 same to a bath of lacquer.

2. As a new article of manufacture, a fiber lining for incandescent-lamp sockets compressed and vulcanized into desired form and impregnated and coated with lacquer, substantially as hereinbefore set forth.

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

OWEN E. KENNEY.

Witnesses:

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MARGUERITE A. ELY.