

O. KAUFMAN.
 PROCESS OF MAKING MANTLES FOR INCANDESCENT GAS LAMPS.
 APPLICATION FILED NOV. 10, 1909.

975,769.

Patented Nov. 15, 1910.

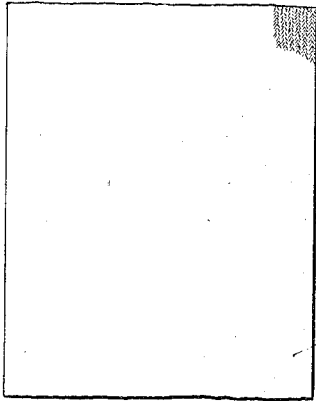


Fig. 1.

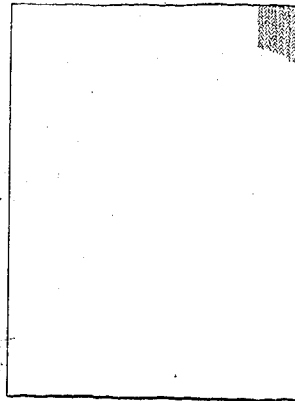


Fig. 2.

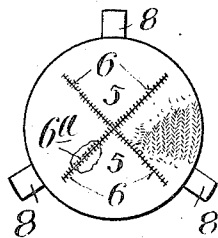


Fig. 7.

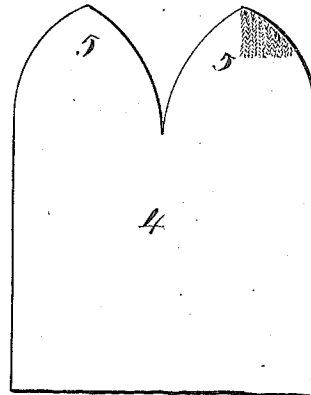


Fig. 3.

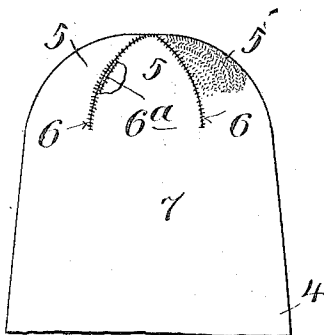


Fig. 4.

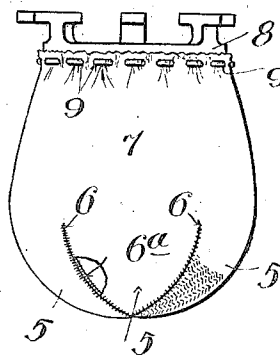


Fig. 5.

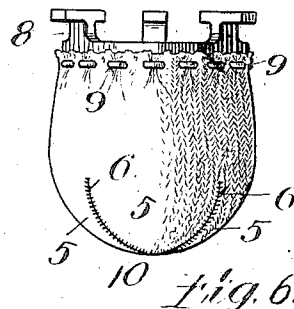


Fig. 6.

Witnesses:
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UNITED STATES PATENT OFFICE.

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PROCESS OF MAKING MANTLES FOR INCANDESCENT GAS-LAMPS.

775,769.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Original application filed October 21, 1905, Serial No. 283,743. Divided and this application filed November 10, 1909. Serial No. 527,152.

To all whom it may concern:

Be it known that I, OTTO KAUFMAN, a citizen of the United States, residing at the city of Youngstown, county of Mahoning, State of Ohio, and whose post-office address is care of the Block Light Company, in said city, have invented a certain new and useful Process of Making Mantles for Incandescent Gas-Lamps, of which the following is a specification.

My invention relates to a process of making mantles for incandescents for lamps in which an illuminating gas or other illuminating fluids or liquids are employed for the purpose of incandescing a mantle.

The invention specifically relates to the manufacture of mantles intended for use in inverted lamps or lamps of that class.

My invention has for its object to expedite and cheapen the manufacture of mantles, and it consists in the process hereinafter described and further pointed out in the claims.

The specific form of mantle embodying my invention, that is, one made by a specific embodiment of my invention, is shown in my application for improvements in incandescent mantles, Serial Number 283,743, filed October 21, 1905, and of which this application is a division.

In the drawing illustrating my improved process, Figures 1 and 2 show an ordinary mantle tube cut into proper lengths. Figs. 3, 4, and 5, show my improved mantle in various stages of manufacture. Figs. 6 and 7 are respectively side and end elevations of the complete mantle with a support attached.

Heretofore mantles for incandescent gas lamps, and especially those for use in inverted lamps, have been made by gathering one end of the tube of knitted material by the use of a string encircling one end of the tube or by passing the string through the loops of the knitting and drawing the loops together. This is objectionable for the reason that these methods necessarily crease and fold the fabric and make it weak and dense at the point where the stress is greatest, when the mantle is in use, so that it soon breaks at the weakened point thereby rendering the life of the mantle short and uncertain, and by reason of the density of the mantle produced in the above ways, neces-

sary increase in gas pressure is required to properly incandescence it, the result of which is also to shorten the life of the mantle, to increase the expense of its use, to complicate its use, and render it less efficient. By the practice of my improved process, these folds and creases are abolished, and the mantle generally strengthened more particularly at the part folded and creased as above described.

In order to more thoroughly illustrate my improvement I shall describe one method of manufacturing mantles of this kind according to a process practiced prior to my invention.

Referring to Fig. 1, 1 designates a mantle tube cut to the proper length. This tube has generally been gathered by a string at its upper end and is folded and creased. When completed and ready for use, it will be most easily broken at the creases, the place it should be strongest because here the mixed air and gas come most forcibly in contact.

In practicing my invention a tube 4, Fig. 2 of suitable impregnated webbing, is cut transversely so as to have 4 curved tongues 5, each identical with the two shown in Fig. 4. These tongues 5 are sewed together by a thread 6 so that the seams formed thereby extend inwardly to form a rib 6^a, whereby the structure is stiffened, as shown in Fig. 4. The mantle 7 thus formed may be mounted on a suitable base or supporting ring 8 secured by a tie-thread 9 as shown in Figs. 5 and 6, or it may be otherwise equivalently supported. The mantle is then "burned," in other words, placed over a Bunsen burner and subjected to its heat, and the pressure from the flow of the mixed air and gas emanating from said burner, which strikes the interior of the mantle. This shapes the mantle, forms a dome-shaped end (10) thereto, and causes the reinforcing ribs 6^a, to extend transversely across the top of dome of the mantle interiorly, and in the specific form herein illustrated causing the four reinforcing ribs to radiate from the center of the dome of the mantle, more particularly as shown in Fig. 7 of the drawing. The mantle is then stiffened by an application thereto of collodion or other suitable protecting covering, which may be readily

burned away so as to leave the fragile skeleton of the mantle. It is then in the shape, as to the mantle, as indicated in Figs. 6 and 7; and it is ready to be packed and shipped or used in the customary manner.

In the foregoing has been described one embodiment of my invention, but many others may be made, so I do not regard it as limited to the exact processes discussed herein, said description being intended to be enough to cover all structures that come within the scope of the annexed claims.

Having thus described my invention what I claim is:

1. The process of manufacturing mantles, consisting in forming a tube of fabric, impregnating said fabric with an incandescing material, severing said fabric transversely of its length so as to form a plurality of cut and rounded edges, securing said edges together, and then burning said mantle over a Bunsen burner to set the fabric in its final shape.

2. The process of manufacturing mantles, consisting in forming a tube of fabric, impregnating said fabric with an incandescing material, severing said fabric transversely of its length so as to form a plurality of cut and rounded edges, securing said edges together, subjecting said mantle to the action of a column of burning gas and air emanating from a Bunsen tube to set the fabric in its final shape, and then applying an

adhesive and combustible covering to the burned and set fabric.

3. The process of manufacturing mantles, consisting in forming a tube of fabric, impregnating said fabric with an incandescing material, severing said fabric transversely of its length so as to form a plurality of cut and rounded edges, securing said edges together to form seams, turning said mantle inside out and then burning said mantle over a Bunsen burner to set the fabric in its final shape, and stiffen the seams within the mantle.

4. The process of manufacturing mantles consisting in forming a tube of fabric, impregnating said fabric with an incandescing material, severing said fabric transversely of its length so as to form a plurality of cut and rounded edges, securing said edges together, then turning the mantle inside out, then subjecting said mantle to the action of a column of burning gas and air emanating from a Bunsen burner, forming internal stiffened seams, and then applying an adhesive and combustible covering to the burned and set fabric.

Signed at the city of Youngstown, State of Ohio, this 5th day of November, 1909.

OTTO KAUFMAN.

Witnesses:

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