

O. A. MOSES.

MANUFACTURE OF INCANDESCENT ELECTRIC LAMPS.

No. 383,140.

Patented May 22, 1888.

Fig. 1,

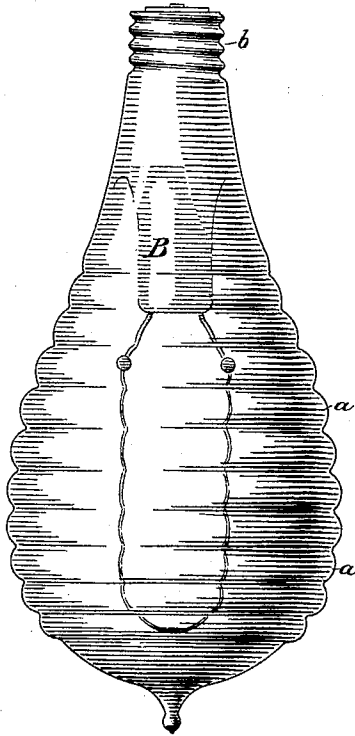


Fig. 2,

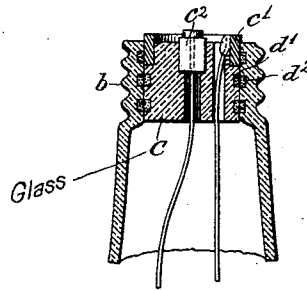


Fig. 3,

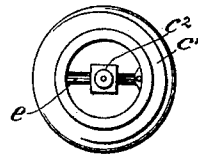
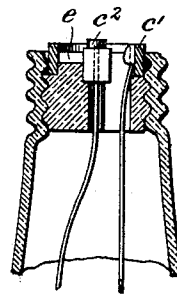


Fig. 4,



Witnesses,

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By his Attorneys

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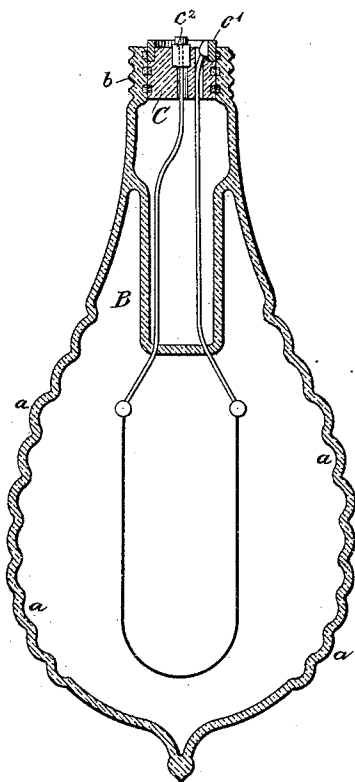
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*Fig. 5.*



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## MANUFACTURE OF INCANDESCENT ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 383,140, dated May 22, 1888.

Application filed December 29, 1886. Serial No. 22,917. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO A. MOSES, a citizen of the United States, residing in New York, in the county and State of New York, have  
5 invented certain new and useful improvements in the Manufacture of Incandescent Electric Lamps, of which the following is a specification.

The invention relates to the construction of the globes of incandescent electric lamps and  
10 to the means of attaching the same to a holder and securing electrical connections between the leading-in wires of the filament and the conductors of the holder.

It is well known that in certain instances an  
15 objection to incandescent electric lamps of the usual construction lies in the fact that the light is too concentrated, and various means have been employed for diffusing the light—such,  
20 for instance, as the employment of ground-glass globes, or cut-glass globes, or globes made of more or less opaque material. The cut-glass globes afford results more satisfactory than most forms; but the expense incident thereto is a serious objection to their general intro-  
25 duction. By the present invention it is proposed to provide a blown-glass globe having the advantages incident to the cut glass form, and this feature of the invention consists in causing the walls of the globe to be corrugated  
30 or in the form of annular rings and depressions, which serves to diffuse the light given off by the filament. It is necessary in the manufacture of incandescent lamps that the glass bulbs from which they are made should  
35 be of uniform thickness, and also that there should be no vertical lines or seams in the globe. For this reason it is impracticable to cast the globe in a mold or to cause it to conform to the shape of a mold while stationary.  
40 By this invention it is proposed to shape the globe in a mold having its inner surface properly conformed, and while the glass is still malleable the globe is turned within the mold axially, so that no seams are formed upon it,  
45 and thus the liability of its cracking along such portions is avoided.

The neck of the globe is preferably provided with a screw-thread, which forms a convenient  
50 method of attaching the lamp to a corresponding end piece or socket. There is preferably

inserted in the neck of the globe, after the filament has been inserted and the portion holding the same has been properly sealed, a block containing the contact-points which serve to  
55 continue the connections to the holder proper.

The invention will be described in detail in connection with the accompanying drawings, in which Figure 1 is an elevation of the completed lamp, and Fig. 2 is a cross-section of  
60 the end containing the block for containing the contact-points. Figs. 3 and 4 illustrate a modification. Fig. 5 is a vertical transverse section of the lamp.

Referring to the figures, A represents the globe of the lamp. This is made with annular  
65 corrugations or rings *a a* covering the main portions of the lamp-globe. Preferably the end *a'* is plain for the purpose of preventing the lamp from casting shadows downward. This globe is made by blowing the glass into  
70 a mold the interior of which is corrugated or configured to correspond to the surface of the globe, and while the globe is being formed it is turned back and forth or continuously in  
75 one direction in the mold. This insures a smooth continuous surface, and at the same time the blowing of the glass will cause the walls of the globe to be of equal thickness throughout its entire surface.

In the present instance the lamp is shown  
80 as being constructed with its filament upon a separate part, B. This is inserted in the neck of the globe and secured in a manner well understood. The lower end of the neck is constructed with an outer screw-thread, *b*, which  
85 serves as a convenient means for securing the lamp into a holder of suitable character—such, for instance, as is illustrated in a patent issued to me. This screw-thread is cast or formed upon the glass in any suitable manner. In  
90 Fig. 2 the contact-points *c'* and *c''* are shown as being supported upon a block, C, preferably formed of glass or other suitable non-conducting material, which is inserted within the neck of the globe. Annular depressions or open-  
95 ings *d'* and *d''* are formed in the neck of the lamp and in the block for the purpose of receiving plaster of paris or cement, which serves to bind the block securely in position. The block C carries a contact-ring, *e'*, which  
100

serves as one of the contact-points, and one of the leading-in wires is connected with this ring, as shown at *e*, by means of a drop of solder or any other convenient manner. The other leading-in wire passes through the center of a contact-block, *c*<sup>2</sup>, which is received by a corresponding opening at the center of a block, *C*. This opening may with advantage be square, and the lower end of the block *c* is also square to fit within it, being fastened, if necessary, with cement or plaster-of-paris. This method of fastening, however, may not be essential, because the leading-in wire may itself very well serve the purpose.

In Figs. 3 and 4 the block is shown as being provided with a screw-thread which turns in an inner screw-thread, *f*, formed upon the inner surface of the neck of the lamp. In this instance the wires are preferably first brought together near the center of the block and twisted about each other, so that the block itself may be screwed into the neck without twisting the wires about themselves. This is conveniently accomplished by forming a slot, *f*<sup>2</sup>, in the block, and this slot may extend entirely through the block upon one side, so that the wires may be centered. The slot serves as a niche for receiving the screw-driver.

I claim as my invention—

1. The combination, with an incandescent electric-lamp globe having a neck of glass integral with the globe and formed with an internal screw-thread, of a contact-supporting block screwing into said thread, substantially as described.

2. A globe for incandescent electric lamps having a neck integral with the globe and hav-

ing a screw-thread for receiving a holder formed upon the outer surface of the neck.

3. In an incandescent electric lamp, the combination, with the neck of the lamp, of a block entering the neck and secured therein, of the same material as the lamp, a central contact-point sunk into the block, and an annular contact-ring embracing the outer edge of the block.

4. The combination, with an incandescent electric lamp, of a solid-glass block secured in the neck of the lamp and a central electrical contact-point sunk into said block.

5. In an incandescent electric lamp, the combination, with the neck of the lamp, of a contact-bearing block screwed into the neck, a slot in said block extending from the center to the outer edge of the same, and two contact-points carried by the block, substantially as described.

6. In an incandescent electric lamp, a neck provided with means of attachment to a support, a central contact-point having a perforation through its length, and a leading-in wire of the filament passing through said perforation and secured to the contact-point.

7. In an incandescent electric lamp, the combination, with the globe, of a central contact-point, a leading-in wire passing through the same, and an independent supporting-block of glass surrounding the contact-point.

In testimony whereof I have hereunto subscribed my name this 28th day of December, A. D. 1886.

OTTO A. MOSES.

Witnesses:

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CHARLES A. TERRY.