(No Model.)

E. A. GILLINDER.

PROCESS OF MANUFACTURING DOUBLE SURFACE GLASS REFLECTORS.

No. 425,939. Patented Apr. 15, 1890.

FIG. 1.

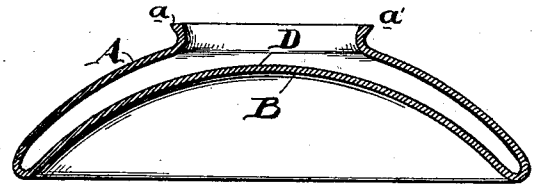


FIG. 2.

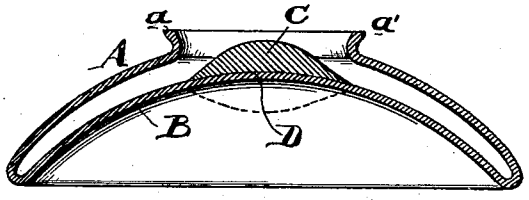


FIG. 3.

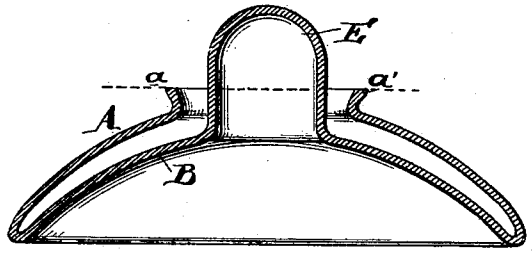
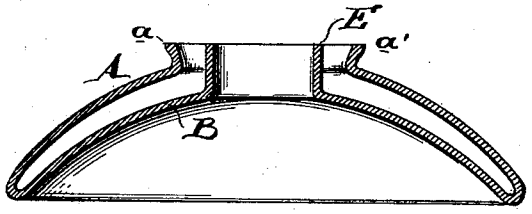


FIG. 4.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDGAR A. GILLINDER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO GILLINDER & SONS.

PROCESS OF MANUFACTURING DOUBLE-SURFACE GLASS REFLECTORS.

SPECIFICATION forming part of Letters Patent No. 425,939, dated April 15, 1890.

Application filed November 14, 1889. Serial No. 330,276. (No model.)

To all whom it may concern:

Be it known that I, EDGAR A. GILLINDER, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Process for Manufacturing Double-Surface Glass Reflectors provided with an orifice through each of said surfaces, of which the following is a true and exact description, due reference being had to the drawings which accompany and form part of this application, and in which similar letters denote similar parts.

Figure 1 illustrates in section the ordinary glass double reflector, which consists, essentially, of the surfaces A and B, between which surfaces is placed mercury, so as to form a reflecting-surface. The great advantage of these reflectors is that the mercury is protected and abrasion prevented. The only other method in use to accomplish the same result is by a single surface set with wood or other backing to protect the mercury. As shown in Fig. 1, the surface B is a continuous surface, preventing the use of the reflector where the chimney of a lamp must pass through it or the support for an electric-light lamp project down through it.

In Fig. 4 is illustrated in section a reflector made in accordance with my improved process. As may be seen, both surfaces A and B in this reflector are broken, so that while the mercury is protected between the surfaces A and B, still the reflector is one that can be used where the chimney of the lamp must pass through the reflector.

My process is as follows: The reflector is blown or molded in the ordinary way into the form shown in Fig. 1. A lump of molten glass C is then placed in the surface B of said reflector, as shown in Fig. 2. In Fig. 2 the molten glass in full lines is shown in the top of said reflector. In place of dropping on the upper surface of the surface B it may be placed on the lower surface of said surface B. In either case, as indicated by dotted lines, Fig. 2, it is placed at the point where the orifice is desired to be made in the surface B. The portion D of said surface B, upon which the molten glass C is placed, is then pressed out, either by a block forcing it out or turning the reflector upside down, and allowing it to pass out by its own weight. The reflector then assumes the position shown in Fig. 3, forming the projecting surface E. The portion of the surface E above the projecting portions *a a'* of the surface A is cut off by a hot rod as cylinder glass is cut or separated, as shown in dotted lines, Fig. 3, and the reflector is then in the form shown in Fig. 4.

By my improved process I am enabled to manufacture cheaply and with certainty glass reflectors having double surfaces and an orifice through both surfaces. The mercury is added between the surfaces A and B of Fig. 4 after the construction of the reflector is completed.

Having now fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. The hereinbefore-described process of forming glass reflectors having double surfaces, between which surfaces the mercury is placed, and an orifice through both of said surfaces, which consists in molding or blowing the glass into the shape of a reflector having double surfaces, the lower surface being continuous, then placing molten glass upon the lower surface of said reflector at or near the point where the orifice is to be produced, then forcing out the surface upon which the molten glass has been placed, and then cutting off the top portion of said projecting surface.

2. The hereinbefore-described process of forming glass reflectors having double surfaces, between which surfaces the mercury is placed, and an orifice through both of said surfaces, which consists in molding or blowing the glass into the shape of a reflector having double surfaces, the lower surface being continuous, then placing molten glass upon the lower surface of said reflector at or near the point where the orifice is to be produced, then forcing out the surface upon which the molten glass has been placed, and then cutting off the top portion of said projecting surface at the point where it is in line with the upper surface of said reflector.

3. An improved process for forming an orifice in the lower surface of a double-surfaced glass reflector, which consists in placing molten glass upon said lower surface at or near the

point where the orifice is desired, then forcing out said surface upon which the molten glass is placed, and then removing the top portion of said projecting surface.

4. An improved process for forming an orifice in the lower surface of a double-surfaced glass reflector, which consists in placing molten glass upon said lower surface at or near the point where the orifice is desired, then forcing out said surface upon which the molten glass is placed, and then removing that portion of said projecting surface which extends beyond the upper surface of said reflector.

In witness whereof I have signed my name this 6th day of November, 1889.

EDGAR A. GILLINDER.

Witnesses:
ABNER J. DAVIS,
FRANK S. BUSSER.