(No Model.)

F. HOLMAN.

REFLECTOR FOR INCANDESCENT LAMPS.

No. 422,592. Patented Mar. 4, 1890.

Fig. 1.

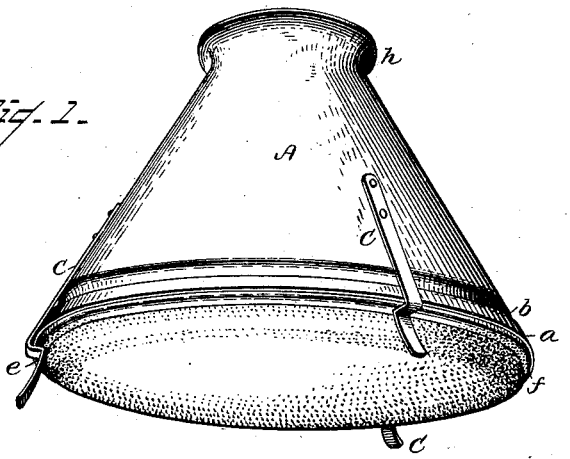


Fig. 2.

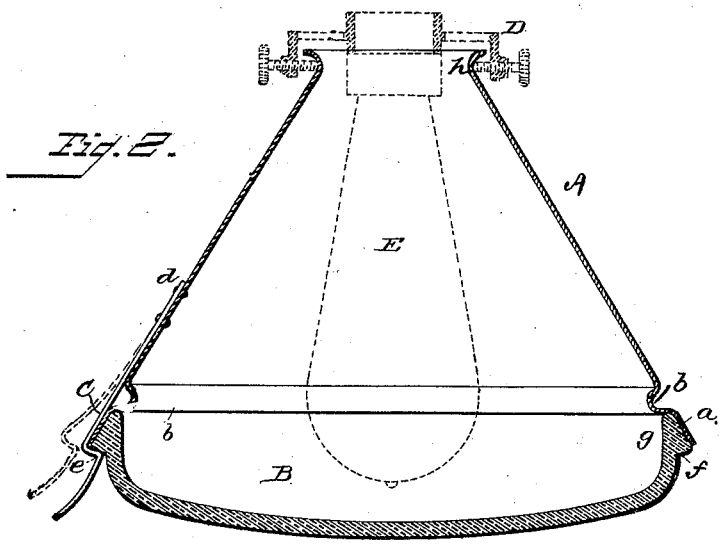
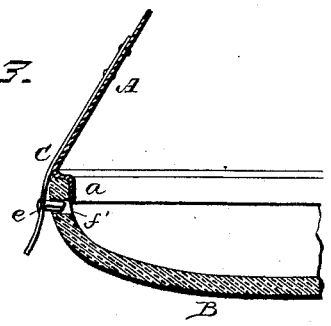


Fig. 3.



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UNITED STATES PATENT OFFICE.

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REFLECTOR FOR INCANDESCENT LAMPS.

SPECIFICATION forming part of Letters Patent No. 422,592, dated March 4, 1890.

Application filed January 27, 1888. Serial No. 262,121. (No model.)

To all whom it may concern:

Be it known that I, FRANK HOLMAN, of Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Reflectors for Incandescent Electric Lamps, of which the following is a specification.

The primary object of my invention is to provide an improved reflector for electric lamps in which the concentrated rays from the lamp, thrown down or out by the reflector, are passed through a translucent glass, which modifies or softens and diffuses the light. I employ a reflector—say of polished metal—of conical or similar suitable shape and detachably secure over its larger end a translucent glass disk, ground or etched to modify the intensity of the reflected rays and give a diffused and agreeable light. I by preference support the incandescent lamp at and within the smaller opening of the reflector, and also support or suspend the entire device from at or near the smaller end, thus doing away entirely with any obstructions to the light. The glass disk through which the reflected rays of light are passed and modified is removably attached to the reflector for convenience in cleaning, and the reflector is preferably made of metal because it is light and strong and has a good reflecting-surface, which can easily be kept brightly burnished.

In the accompanying drawings, Figure 1 is a perspective view illustrating one construction of my invention; Fig. 2, a vertical central section thereof; and Fig. 3, a fragmentary section of the left-hand portion of Fig. 2, showing a modified construction of the devices for connecting the light diffusing and modifying disk to the reflector.

The conical reflector A, for concentrating and throwing the light in one direction, is preferably made of sheet metal, and the translucent disk B, for softening and diffusing the light, is placed across the larger end thereof. The larger end of the reflector may be made to conform to the peripheral portion of the disk B, either by extending outside of and embracing the latter, as shown at *a* in Fig. 2, or by extending inside thereof, as shown at *a* in Fig. 3. In either case it is preferably formed with a rib or bead *b*, against which the upturned edge of the glass disk abuts. The two are shown as held together by means of leaf-spring catches or elastic strips of metal C, fastened at *d*, by riveting or otherwise, to the reflector and each having a tooth or shoulder *e* for engagement with a corresponding shoulder or socket in the glass disk. In Fig. 2 the glass B is formed with a continuous ledge *f*, extending around the upturned flange *g*, which fits within the rim *a* and against the bead *b* of the reflector, the parts being so proportioned that the shoulder *f*, with which the catches engage, projects somewhat beneath the edge of the rim *a*. The upper end of the reflector may be formed with an outwardly-turned flange *h*, to be engaged by the screw-fastening, (shown in dotted lines at D in Fig. 2,) by which the reflector is suspended. E indicates an incandescent electric lamp suspended within the reflector, as shown.

In lieu of ground glass, the disk B may consist of translucent porcelain or any other equivalent semi-transparent or translucent material, and when I use the term "glass disk" I mean to include such materials.

In Fig. 3 the glass disk is shown with its edge fitting against the outside of the bottom of the reflector, and is fastened thereto by means of a slightly-modified construction of catch. The spring C has a pin *e* firmly riveted to it, which pin enters a hole *f'*, drilled in the edge or flange of the glass disk.

With my improved construction access can be had to the electric lamp without removing the reflector from the lamp by simply detaching the glass disk, and the disk may readily be cleaned without disturbing the lamp. In case of breakage the glass disk can be replaced at less cost and with less inconvenience than if the reflector and disk were made of one piece of glass. If at any time a stronger concentrated light is required, the disk may be temporarily removed.

With my improved device the light of the lamp is first concentrated and thrown in one direction, and, having thus been intensified, is thus softened and diffused by the translucent disk. It will be noted that the disk has an unbroken or imperforate surface, and the light emitted therefrom is of a uniform qual-

ity, and the supporting devices of the reflector being arranged out of the path of the light, there is no obstruction to interrupt the light and cast shadows.

The curved body B of translucent material has been designated by the term "disk," and that term is intended to include any shape or degree of curvature that may be given to the translucent material.

I claim as my invention—

In a reflector for incandescent electric lamps, the combination, with a sheet-metal reflector of conical or like form adapted to be supported at its contracted end, of a disk having an unbroken translucent body detachably supported from the reflector and arranged to close its larger end, whereby the concentrated rays of light are softened and diffused and obstructions to the light avoided.

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