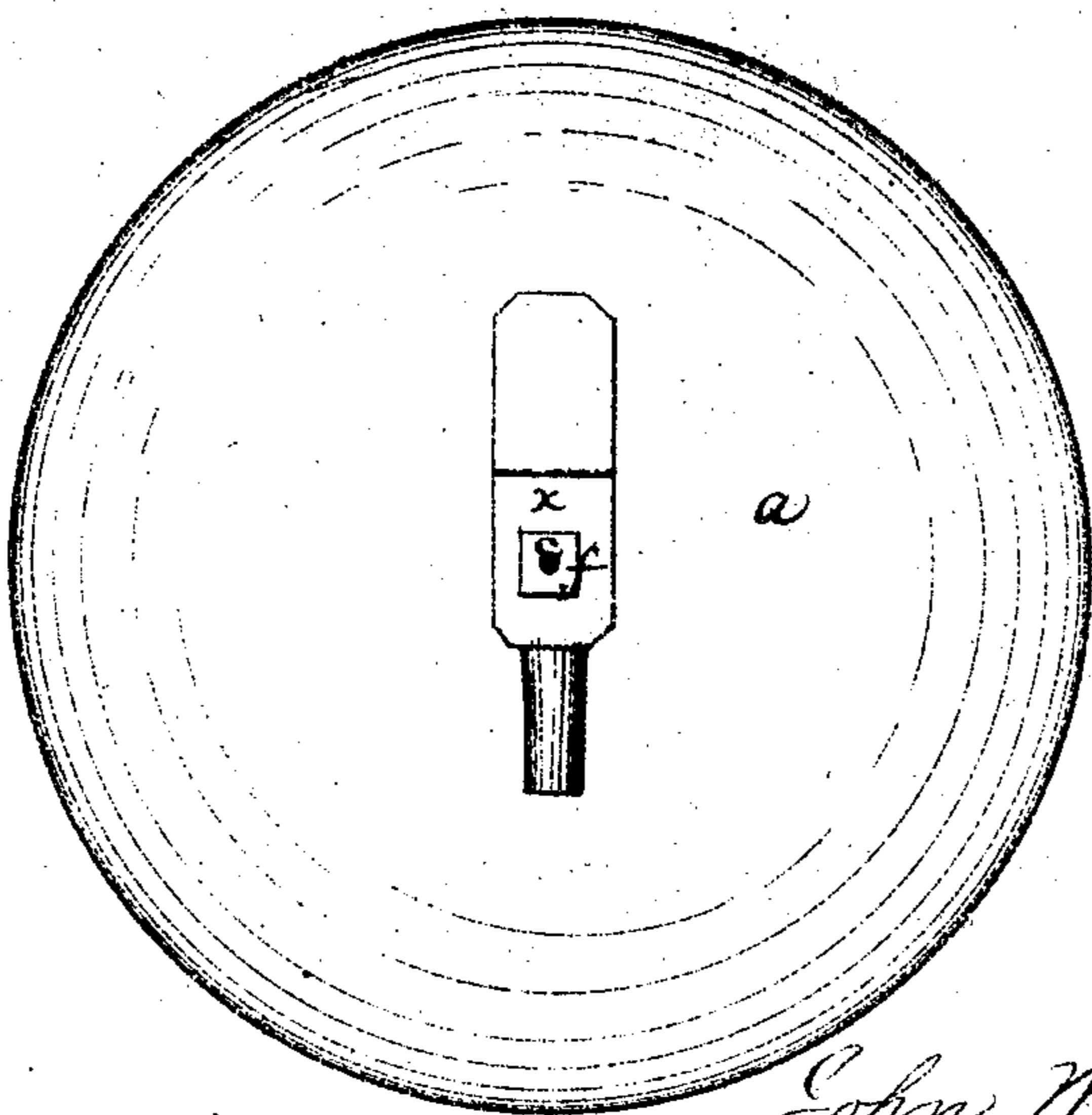
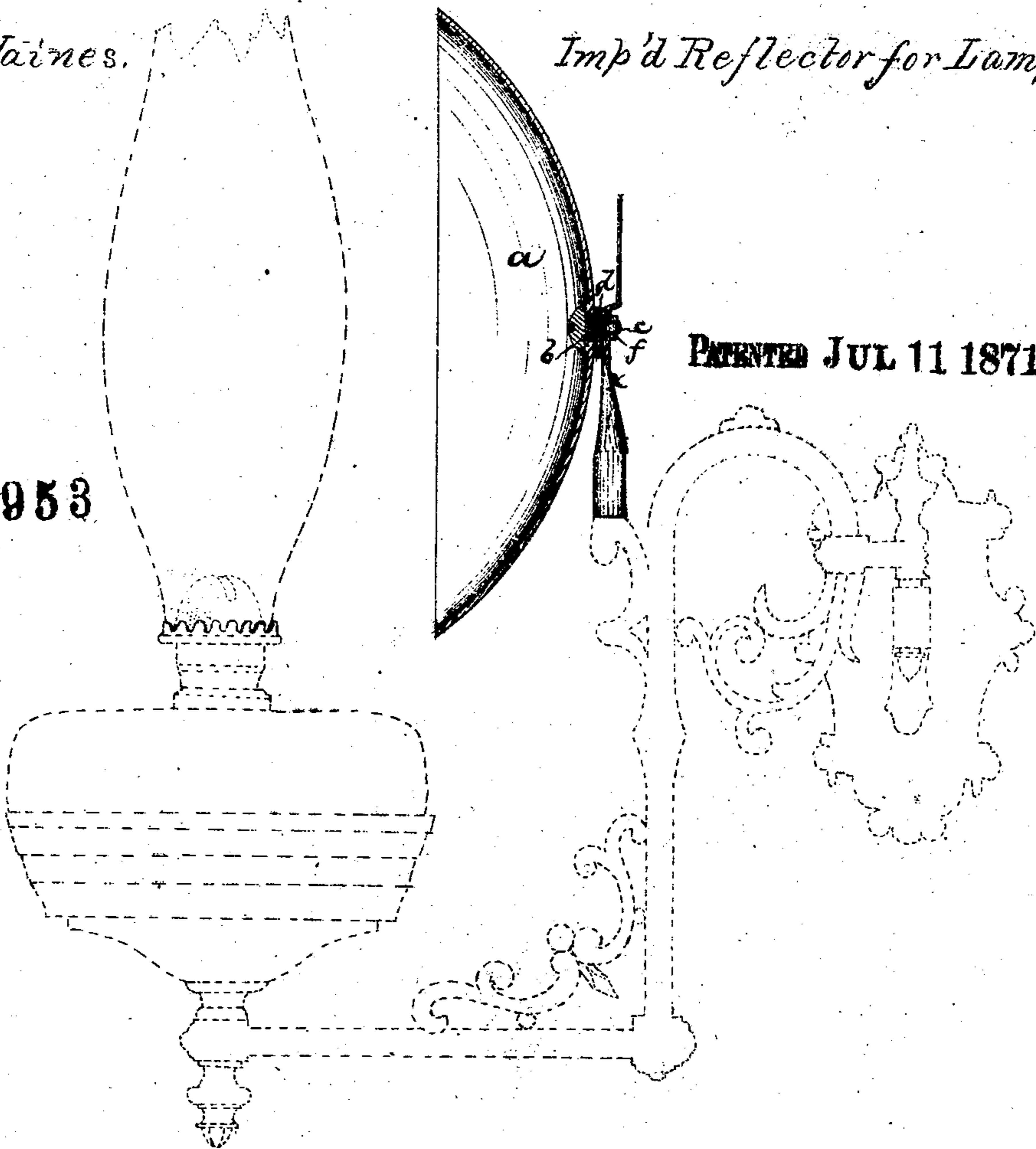


John W. Haines.

Imp'd Reflector for Lamps, &c.

116953

PATENTED JUL 11 1871



Witnesses. { Mr. W. Frothingham.
L. H. G. Limer.

John W. Haines
by his Atty
Crosby & Gould

UNITED STATES PATENT OFFICE.

JOHN W. HAINES, OF CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN REFLECTORS FOR LAMPS.

Specification forming part of Letters Patent No. 116,953, dated July 11, 1871.

To all whom it may concern:

Be it known that I, JOHN W. HAINES, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented an Improved Reflector for Lamps, &c.; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention, sufficient to enable those skilled in the art to practice it.

My invention relates particularly to the construction of that class of glass reflectors used with lamps and lanterns in which the glass is formed in dishing or concave shape, and has, back of or under its surface, a suitable silvering or reflecting coating. Each of such glass reflectors is always formed in one imperforate piece, and usually of a double thickness, having a thin space between the parts, in which space the reflecting medium is contained, the dish-shaped reflector being blown or being formed into shape by a blowing process. By such process it is impossible to obtain a correct or hardly approximately correct reflecting curve, and it is always necessary to have a central projection or stud extending out from the back of such reflector, and of such length as to enable the supporting-socket or coupling to be connected to the reflector by joining it to this stud by plaster. These projections occupy so much space as to bring the reflector too near to the lamp-chimney, often causing the surface of the reflector to become unduly heated, so that the glass cracks.

In my construction I make the reflector of a single thickness of glass, (silvering the convex surface and protecting the silvering with a suitable coating of paint,) and I shape the reflector in a mold, or press it into shape instead of shaping it by blowing; and at the center I form, in the pressing operation, a spindle-hole or perforation through which to pass a pin for the attachment of the socket-piece or connector, by which the reflector is coupled to the bracket or other lamp-fixture and in proper position, relatively, to the lamp.

It is in the construction of a concave glass reflector pressed into proper form, and in a concave glass reflector having a central eye or perforation for receiving the pin by which the socket-piece or connection is fastened to the reflector, that my invention primarily consists.

The drawing represents in sectional and in rear view a reflector made in accordance with my invention.

a denotes the glass, made concave on its front or reflecting-face and covered on its back by the silvering composition, which is coated with suitable paint. With a suitable glass mold, having molding surfaces properly shaped to the best curves used for concave reflecting surfaces, I form the glass to a corresponding shape by the well-known methods of pressing glass in molds, and the mold is so constructed that in the process of molding I form or leave at the center of the glass the eye-perforation *b*, there being no projection whatever formed on the glass reflector at the center of the glass. Through this hole I pass the shank of a screw-pin, *c*, the head *d* of which abuts against the inner face of the reflector. The shank of the pin *c* is screw-threaded, and the socket or connector-plate is fastened upon the shank and directly against the back of the reflector, or against interposed washers *e* by a nut, *f*, thereby bringing the reflector-affixing devices close to the reflector, and permitting the reflector to be set at proper distance from the lamp-chimney, there being no obstructing devices between the reflector and the supporting-spindle of the bracket or lamp-fixture.

I claim—

A concave glass reflector, molded and pressed into suitable form, and having a central eye, *b*, and a connector, *x*, the connector and glass being fastened together by a pin or bolt, all substantially as shown and described.

JOHN W. HAINES.

Witnesses:

FRANCIS GOULD,
M. W. FROTHINGHAM.