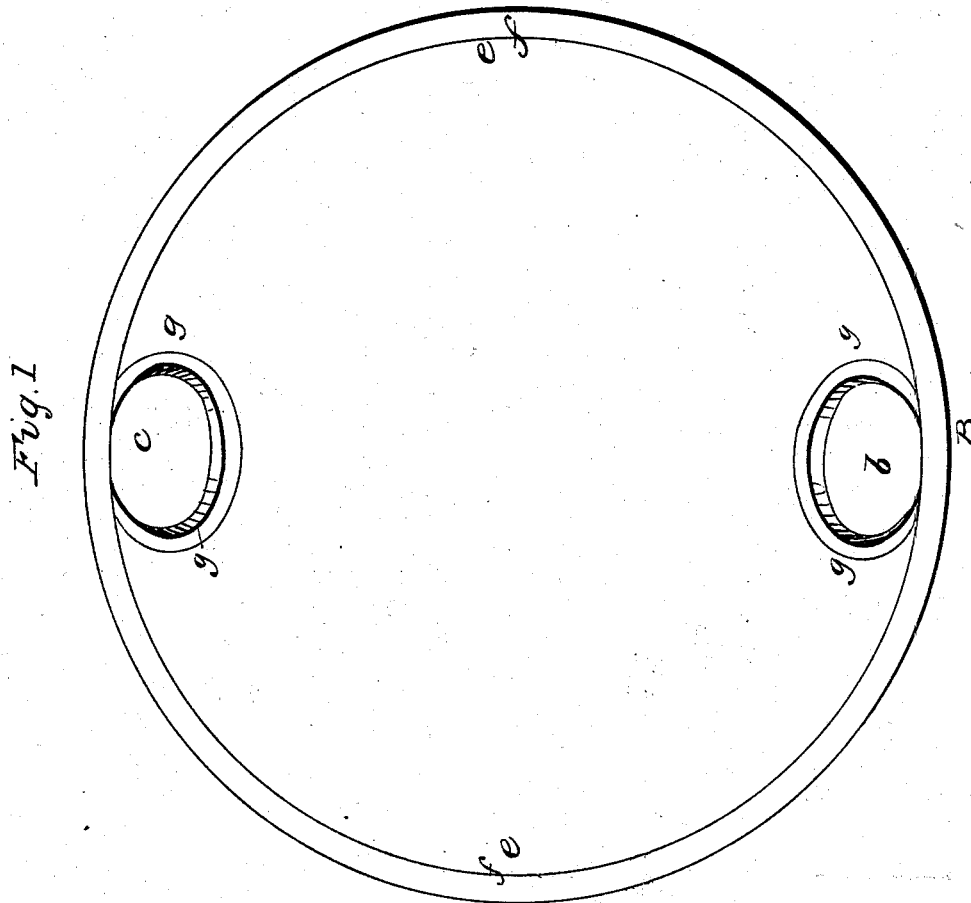
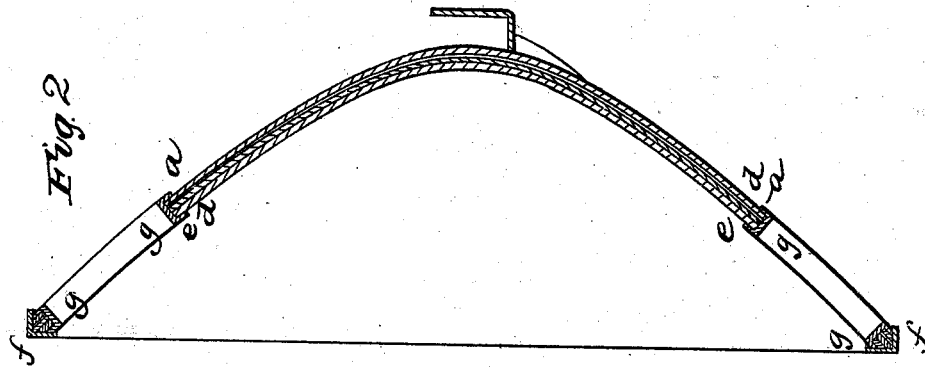


A. FARRAR.  
Metallic Reflector.

No. 3,518.

Patented April 4, 1844.



# UNITED STATES PATENT OFFICE.

ALONZO FARRAR, OF BOSTON, MASSACHUSETTS.

## METALLIC REFLECTOR.

Specification of Letters Patent No. 3,518, dated April 4, 1844.

*To all whom it may concern:*

Be it known that I, ALONZO FARRAR, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Metallic Reflectors or Mirrors for the Purpose of Protecting their Polished Surfaces, and that the following description, taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvement by which my invention may be distinguished from others of a similar class, together with such part or combination as I claim and desire to have secured to me by Letters Patent.

The reflectors or mirrors now in common use, in light-houses and on railroads are usually made of a parabolic shape, for the purpose of reflecting rays, or a beam of light in a direction parallel to its axis. They are formed of copper and have their concave surfaces plated or coated with silver, highly polished for purposes of reflection. The smoke from the lamps, and the dust, &c., which accumulate from time to time upon the polished surface of a reflector tend to tarnish it considerably, and the necessary cleansing and re-polishing consequent thereon, will diminish and in time destroy the reflecting power of the same.

My improvement consists in applying a surface of flint glass, or in fact, what may be termed a parabolic lens (when the reflector is parabolic), and when it is of any other shape, a lens made perfectly symmetrical with the reflecting surface of the mirror, to said reflecting surface, the lens or glass being fitted oppositely to, and in close contact, with, said surface.

The mechanical construction or conformation of a reflector, made with my improvement, is represented in the figures of the accompanying plate of drawings, the mirror shown being of a parabolic shape as above set forth.

Figure 1, is a front view of the reflector, and Fig. 2, is a vertical section taken in the plane of the line A B Fig. 1.

*a a*, Fig. 2, is the back plate of the reflector, made of copper or any other suitable metal, and shaped in the usual way, having one circular hole *b*, for the insertion

of the lamp, and another *c* on the opposite side of the apex of the mirror for the accommodation of the chimney of the burner. The fittings on the back of the reflector for hanging the same, are of the ordinary kind and need not be described.

The silver plate *d d* which forms the reflecting surface is fitted in the usual way, and perforated like the back plate *a a* to accommodate the lamp and chimney as above set forth, as is also the glass lens *e e*, Figs. 1, and 2. This lens is shaped as hereinbefore specified, and is fitted to the reflecting surface of the mirror as above set forth, being made of an uniform and sufficient thickness to insure strength and durability. The lens *e e* is cemented or hermetically sealed to the mirror or reflector around its perimeter or edge, and around the edges of the holes or perforations *b*, *c* in the following manner, or in any other suitable way, the mode of cementing being no part of my invention, and being described only because it is that which I have adopted. I first apply a sufficient number of coats of gold beater's skins around all of the said edges, to make them perfectly air tight, and then cover or surmount the said edges with a confining rim *f f*, *g g*, *g g* properly grooved out or shaped as shown in section in Fig. 2. Putty or any suitable cement may then be fitted in any proper way in that part of the groove of the rims *f f*, *g g*, *g g*, which is not filled by the edges of the reflector and lens, so as more effectually to prevent the admission of air.

By an arrangement, such as that above described it will be seen, that the polished surface of a reflector may be always kept as bright as originally made, which is a great desideratum, as whatever dirt and smoke collect on the lens may be easily removed, without injury to its surface.

Having thus described my improvement I shall specify my claim as follows:—

I claim—

The combination with a parabolic or concave reflector or mirror as ordinarily constructed, or the applying or fitting to the polished or reflecting surface of the same, of a concave surface of glass or a concave glass lens or meniscus made perfectly symmetrical with said surface, so as to be oppositely adapted to the same; all the ex-

posed edges of the lens or reflector being hermetically or otherwise sealed so as to be air tight, the whole being constructed substantially as herein above set forth, and for the purpose specified.

In testimony that the foregoing is a true description of my said invention and im-

provement I have hereto set my signature this tenth day of February, in the year eighteen hundred and forty-four.

ALONZO FARRAR.

Witnesses:

EZRA LINCOLN, Jr.,

THOMAS LAMB.