(No Model.)

A. L. FRANCE.

LENS ATTACHMENT FOR LANTERNS.

No. 457,988. Patented Aug. 18, 1891.

Fig. 5.

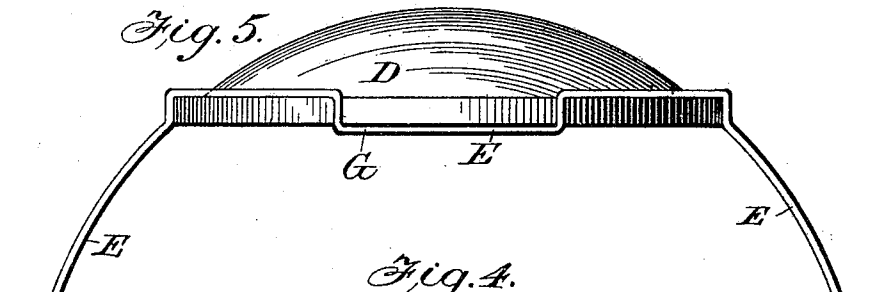


Fig. 4.

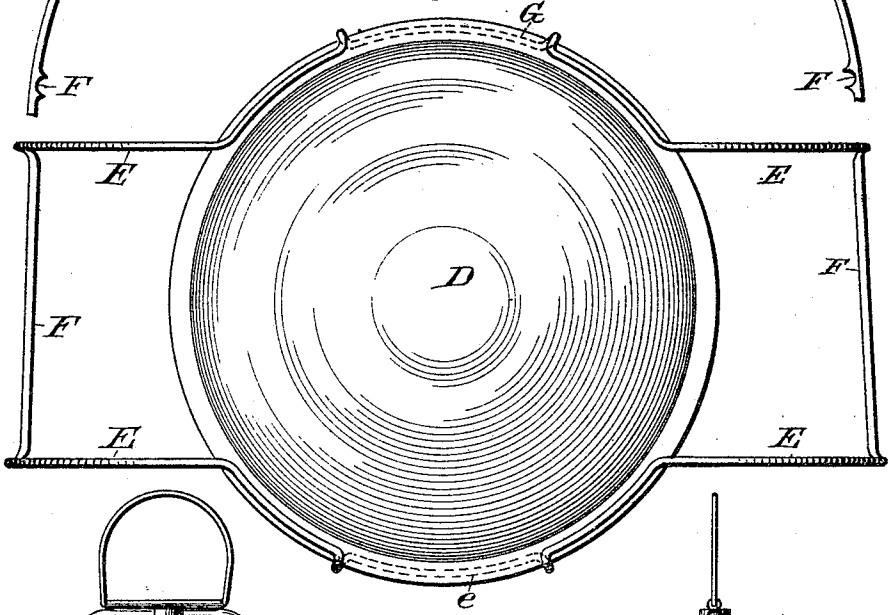


Fig. 1.

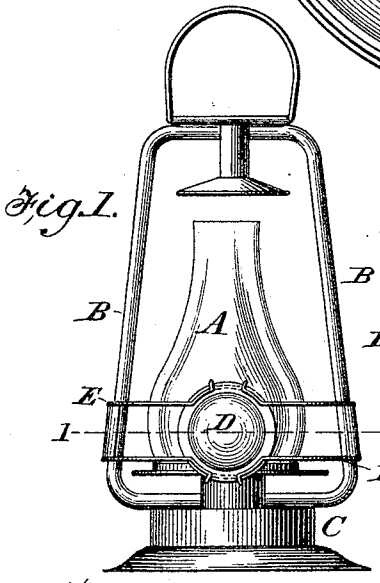


Fig. 2.

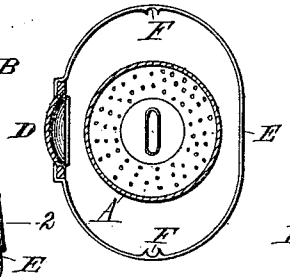
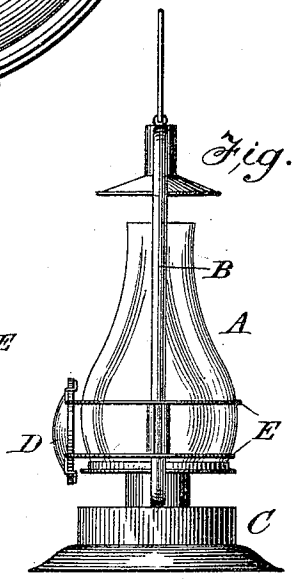


Fig. 3.



Witnesses.
M. L. Griffith
R. A. Rouse

Inventor.
Albert L. France
By Jno. Griffith
Atty.

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

UNITED STATES PATENT OFFICE.

ALBERT L. FRANCE, OF MILLDALE, ASSIGNOR TO THE KENTON CAN COMPANY, OF COVINGTON, KENTUCKY.

LENS ATTACHMENT FOR LANTERNS.

SPECIFICATION forming part of Letters Patent No. 457,988, dated August 18, 1891.

Application filed September 3, 1890. Serial No. 363,869. (No model.)

To all whom it may concern:

Be it known that I, ALBERT L. FRANCE, of Milldale, Kenton county, and State of Kentucky, have invented certain new and useful Improvements in Lens Attachments for Lanterns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My improvements have relation to appliances for use in connection with a tubular lantern; and the object of the invention is to provide a simple, cheap, compact, durable, and convenient lens and guard that may be readily adjusted, attached, and detached upon a tubular lantern and securely connected therewith, and when used will powerfully increase or intensify the light evolved from said lantern.

In the accompanying drawings, Figure 1 represents a front elevation of the lantern with my improved detachable guard and its lens attachment. Fig. 2 represents a horizontal section of the same on line 1 2 of Fig. 1. Fig. 3 represents a side elevation, also showing guard and lens. Fig. 4 is a full-sized front view of the guard and lens. Fig. 5 is a full-sized top edge view of the lens and a part of the guard-wire.

Similar letters of reference indicate similar parts in all the figures.

A represents the glass globe of the lantern; B, the side tubes; C, the oil-pot; and D the lens, which may be concavo-convex or plano-convex, as shown, or it may have any other form or construction.

E represents the wire forming an elliptical guard.

To attach the lens to the wire, the wire is first made to form a shoulder G against the edge or periphery of the lens, which shoulder extends along the face and edge of the lens for a short distance. The wire is then bent over the edge of the lens to the other side, forming a loop, clasping the lens and holding it secure and rigid in the guard.

F represents strips of concaved tin-plate to hold the top and bottom wires together and fit snugly around the side tubes at both ends of the transverse axis of the ellipse.

G, Fig. 4, represents in dotted lines the clasp or loop made around the inside edge of the lens by the wires E.

It is evident that many slight changes which might suggest themselves to skilled mechanics could be resorted to without departing from the spirit and scope of my invention. Hence I do not limit myself to the precise construction herein shown.

What I claim is—

The detachable combined guard and lens for tubular lanterns, consisting of top and bottom wires E E E E, elliptical in horizontal section and joined together by vertical concave tin-plate clasps F F on its transverse ends to fit snugly about the tubes B B of the lantern, and the top and bottom wires of the guard constructed to clasp the lens rigidly in its embrace, substantially as shown and described.

ALBERT L. FRANCE.

Witnesses:
B. P. HOLLEN,
MARTIN SCHOPP.