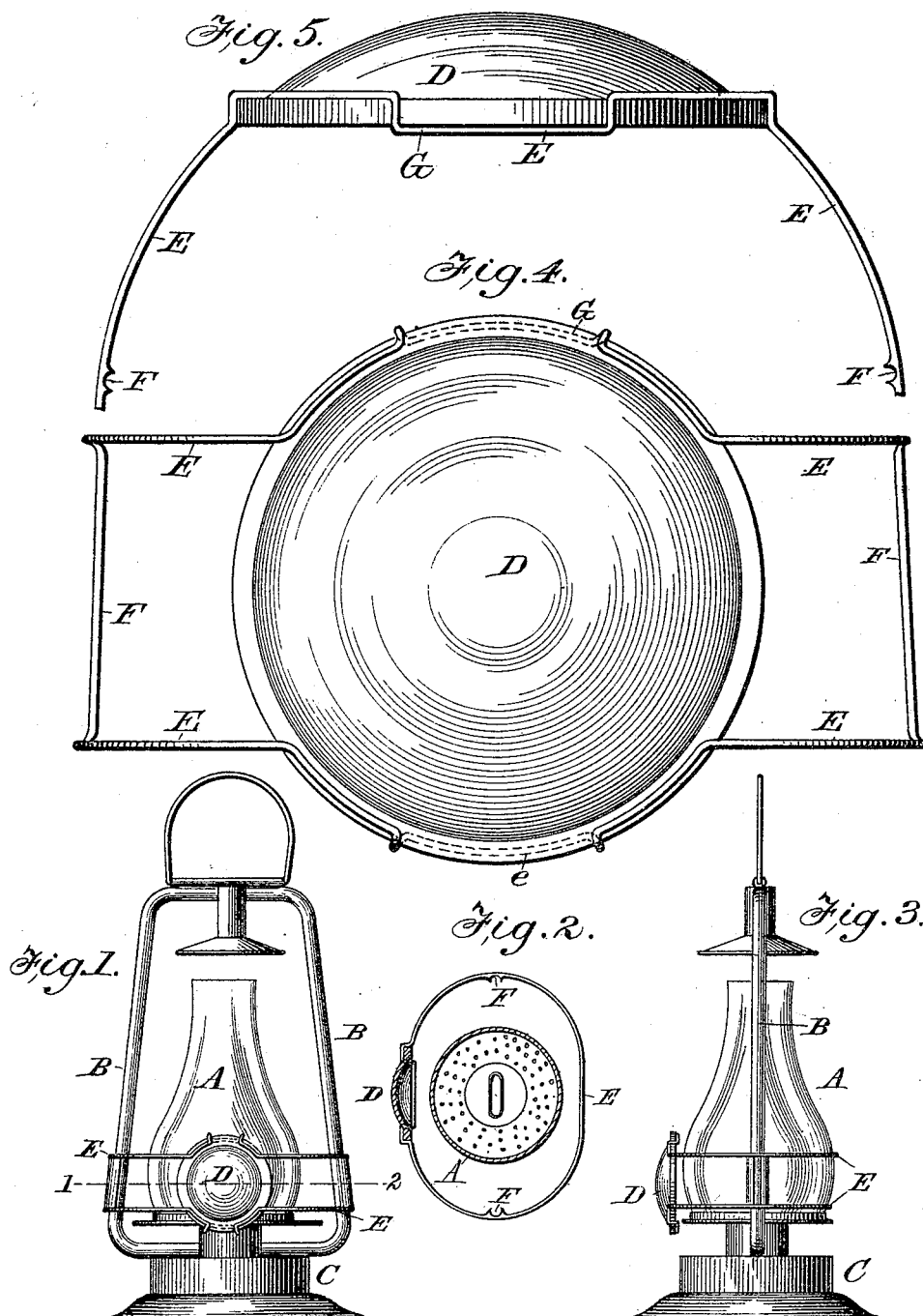


(No Model.)

A. L. FRANCE.  
LENS ATTACHMENT FOR LANTERNS.

No. 457,988.

Patented Aug. 18, 1891.



Witnesses.  
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att'y

# UNITED STATES PATENT OFFICE.

ALBERT L. FRANCE, OF MILDDALE, 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  
5 Improvements in Lens Attachments for Lant-  
terns, 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.

10 My improvements have relation to appli-  
cances 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  
15 readily adjusted, attached, and detached  
upon a tubular lantern and securely connect-  
ed therewith, and when used will powerfully  
increase or intensify the light evolved from  
said lantern.

20 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 hori-  
zontal section of the same on line 1 2 of Fig.  
25 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.

30 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-  
35 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  
40 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  
45 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. 50

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  
55 mechanics could be resorted to without de-  
parting from the spirit and scope of my in-  
vention. Hence I do not limit myself to the  
precise construction herein shown.

What I claim is—

60 The detachable combined guard and lens  
for tubular lanterns, consisting of top and  
bottom wires E E E E, elliptical in horizon-  
tal section and joined together by vertical  
concave tin-plate clasps F F on its transverse  
65 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 de-  
scribed.

ALBERT L. FRANCE.

Witnesses:

B. P. HOLLEN,  
MARTIN SCHOPP.