

(No Model.)

A. L. FRANCE.
LENS ATTACHMENT FOR TUBULAR LANTERNS.

No. 494,135.

Patented Mar. 28, 1893.

FIG. 1.

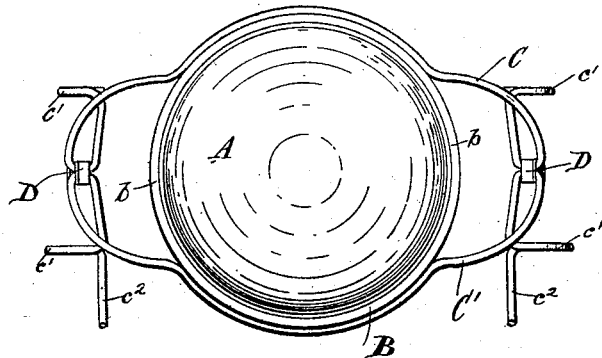


FIG. 2.

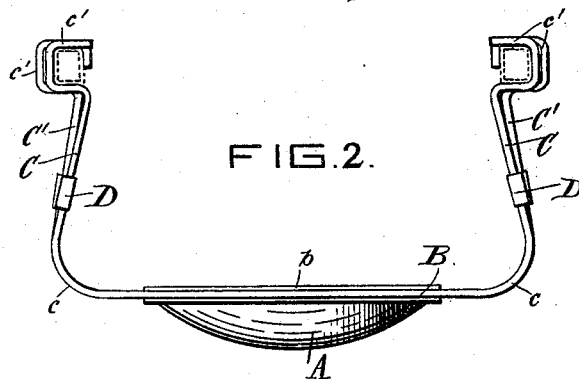
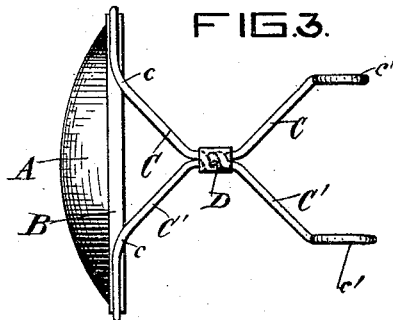


FIG. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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

LENS ATTACHMENT FOR TUBULAR LANTERNS.

SPECIFICATION forming part of Letters Patent No. 494,135, dated March 28, 1893.

Application filed February 26, 1892. Serial No. 422,842. (No model.)

To all whom it may concern:

Be it known that I, ALBERT L. FRANCE, a citizen of the United States, and a resident of Milldale, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Lens Attachments for Tubular Lanterns, of which the following is a specification.

My invention is an improved lens holder and spring frame by which the lens may be attached to the ordinary tubular lantern, securely held in place and readily detached when so desired. It is an improvement on the inventions for which Letters Patent were granted to me August 18, 1891.

The object of the invention is to provide a frame that will protect the edges of the lens from injury and at the same time provide means for readily attaching the lens and its frame to the lantern, adjusting it to the desired position, securely hold it when adjusted, and readily detaching it when desired.

The invention will be first fully described in connection with the accompanying drawings and will then be particularly referred to and pointed out in the claims.

Referring to the drawings in which like parts are indicated by similar reference letters wherever they occur throughout the various views:—Figure 1 is a front elevation of the lens and frame ready for attachment to the lantern. Fig. 2 is a top or plan view of the same attached to a square tubular lantern, side tubes being shown in dotted lines. Fig. 3 is an end elevation of the device attached to a round tubular lantern.

Referring to the parts, A represents the lens, which is of ordinary construction the edge of which is inclosed by light sheet metal frame B, which has its edges *b*, flanged over the edge of the lens. The spring frame consists of the two spring wire members C, C', the central portions of which are bent to conform to the frame of the lens, at the top and bottom of which frame they are secured by solder or other well known means. The arms extending from the center portion curve around at *c*, and incline inwardly terminating in loops *c'*, which are adapted to clasp the tubular sides of the lantern. The upper and lower spring pieces are bent in the direction of the transverse cen-

ter of the lens as seen plainly in Fig. 3; and the upper and lower arms are secured together by metal links which are bent around them and soldered to the edges and to the spring arms for rigidity; the same result would be accomplished by twisting the arms one around the other as shown in dotted line Fig. 3, but the link is preferable as it does not weaken the spring metal. In the forms shown in Figs. 1 and 2, the clasping loops of the spring arms have downwardly extending ends *c'*, which when the lens is placed in position, rest upon the transverse tubular frame of the lamp or may be placed back of it to hold the lens frame rigidly in position. These downward extensions are only for additional strength and may be dispensed with, especially on the round tubular lanterns, but I prefer to use them as they add but little to the expense and are advantageous when the lantern is subjected to rough usage. As the tubular frame of the lantern is inclined upon each side from bottom to top, the clasping arms of the upper and lower members of the spring frame, being free or detached from each other, readily adjust themselves to the inclination, and each independently of the other clasps the said tubes. The frame is thus held firmly in place no matter what the inclination of the tubes may be, without straining the lens holding portion and the frame so constructed may be used to hold the lens without the edge incasing frame B, without any danger of breaking or fracturing the glass. It is of course obvious that the periphery of the lens edge incasing frame B, may be formed with a groove in which case the lens may be sprung into place and held securely without soldering; and other slight modifications in the details of construction might be resorted to, without departing from the spirit or scope of my invention.

What I claim, and desire to secure by Letters Patent, is—

1. The combination substantially as specified of the lens A, its edge incasing frame B, and spring wire frame C, C', having their circular central portion to receive and hold the lens, and extend laterally upon each side of the lens, curving around at *c*, and having rearwardly extending arms the inner ends of which forming clasping loops *c'*, the upper and lower

arms of each side being brought together and the link D securely holding them together.

2. In a spring frame lens holder for lanterns, the combination of the upper and lower spring
5 wires C, C', centrally curved in opposite directions to receive and hold the lens, said arms being bent around and centrally secured together upon each side as shown, and having independent clasping loops c', the lower loops

having downwardly extending branches c², to bear upon the base of the tubular portion of the lantern and hold the lens securely in position, substantially as shown and described.

ALBERT L. FRANCE.

Witnesses:

WM. R. BUFORD,
ERNST REHM.