(No Model.)

A. L. FRANCE.

LENS ATTACHMENT FOR LANTERNS.

No. 457,989. Patented Aug. 18, 1891.

Fig. 1.

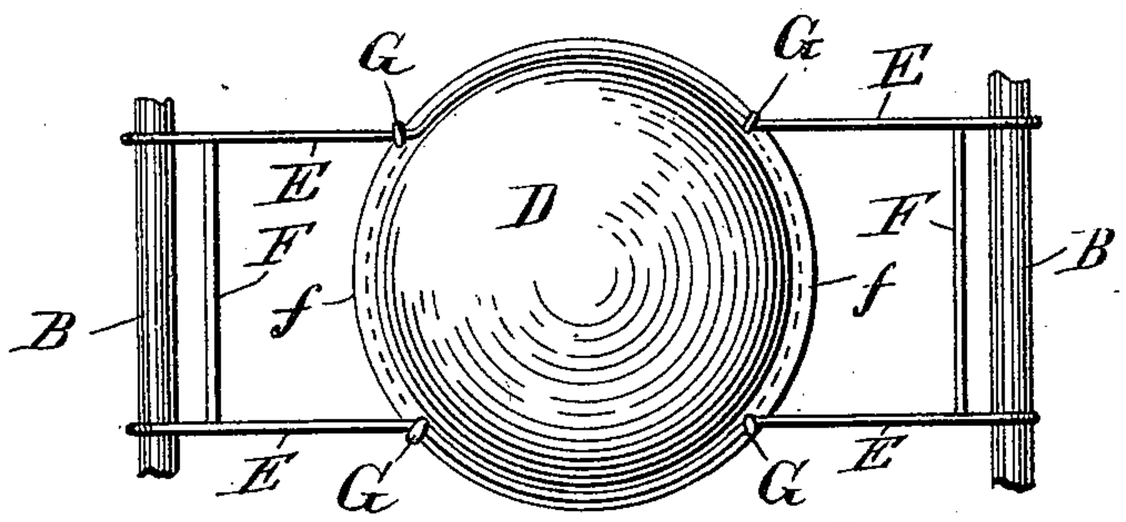


Fig. 2.

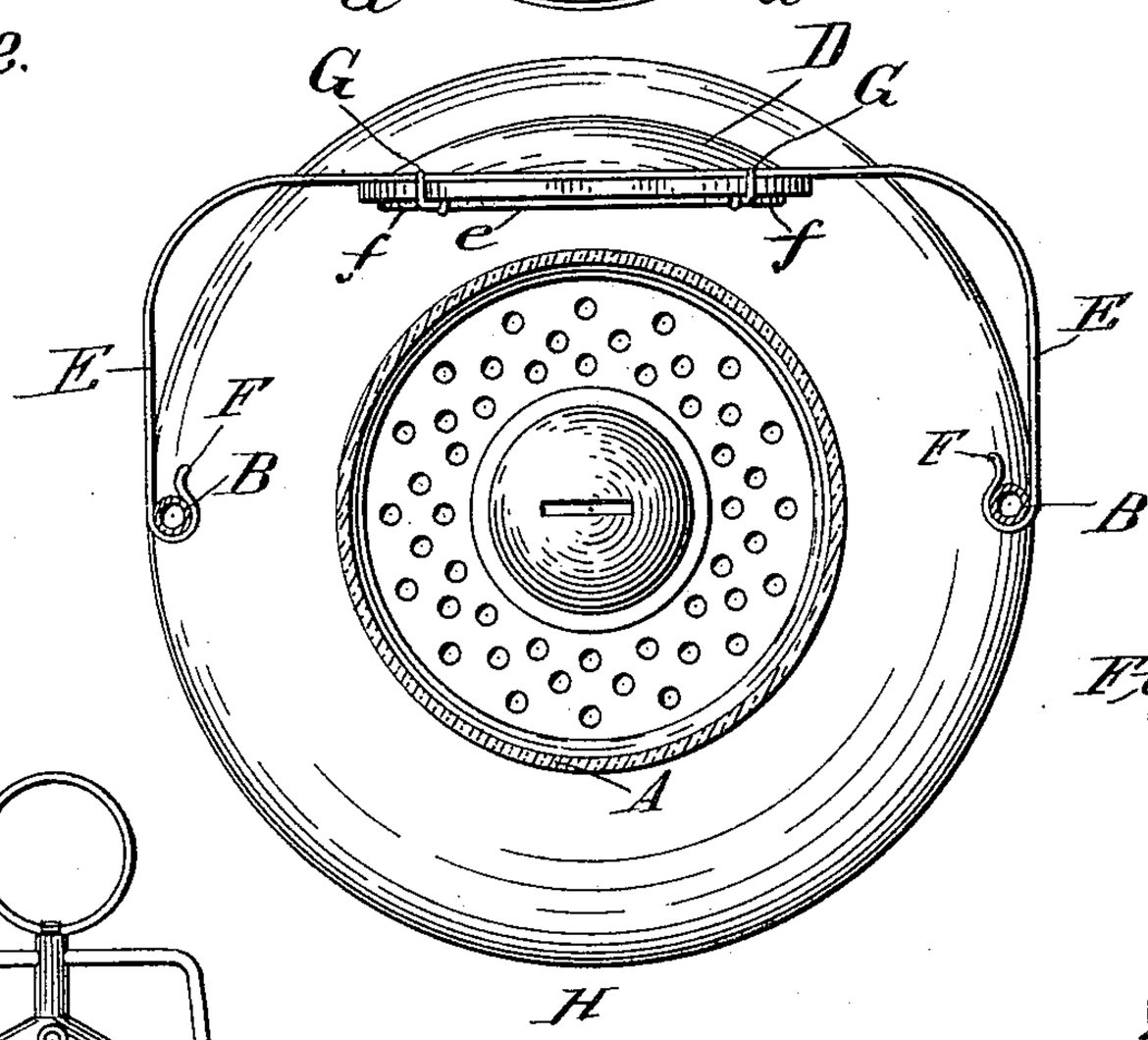


Fig. 3.

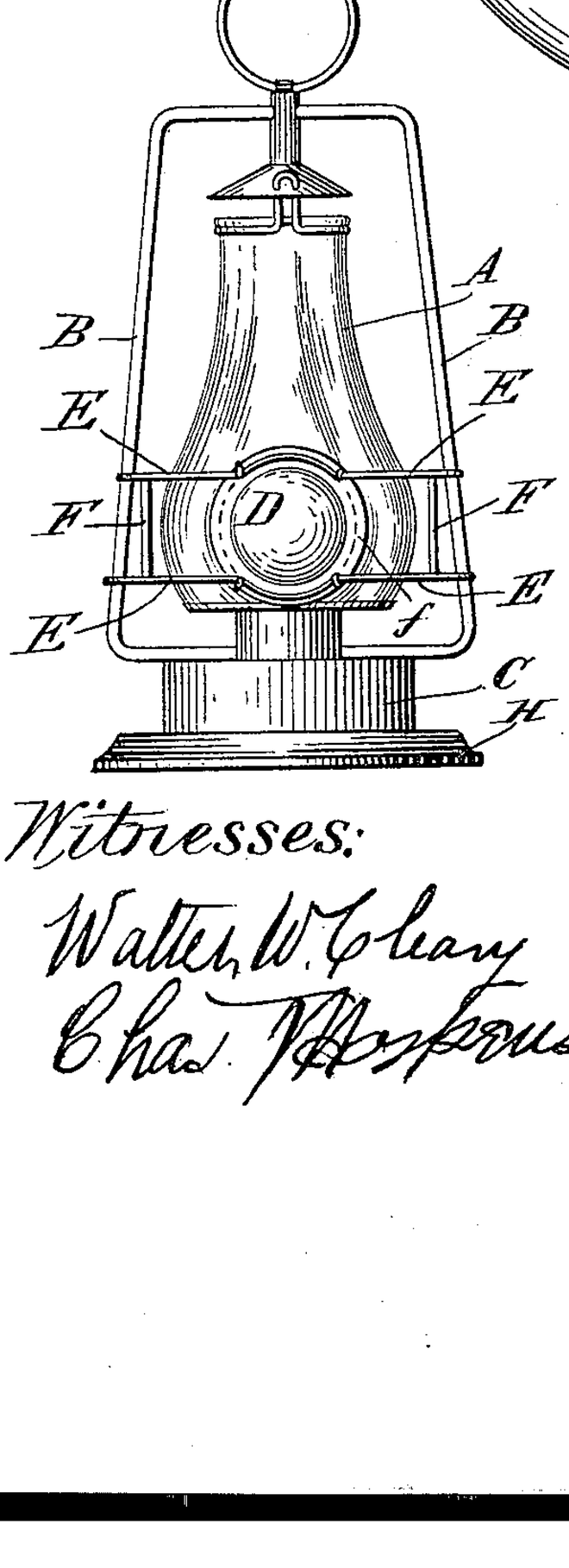
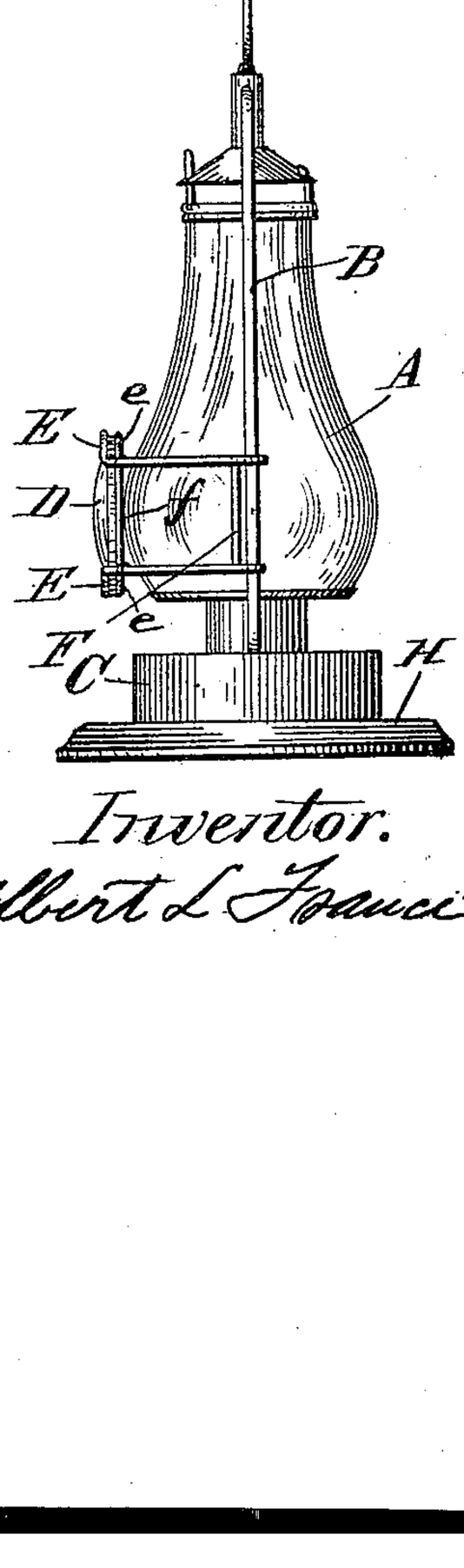


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

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LENS ATTACHMENT FOR LANTERNS.

SPECIFICATION forming part of Letters Patent No. 457,989, dated August 18, 1891.

Application filed November 26, 1890. Serial No. 372,755. (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 or farmer's lantern; and the object of the invention is to provide a simple, cheap, strong, durable, and convenient lens with its spring frame or holder that may be readily adjusted, attached, and detached upon a tubular lantern of any size and securely connected therewith, and when in use will powerfully increase or intensify the light evolved from said lantern.

In the accompanying drawings, Figure 1 represents a front view of the device. Fig. 2 represents a top or edge view of the device and part horizontal plan of the lantern; Fig. 3, a front elevation of the lantern with my improvement attached; Fig. 4, a side elevation of the lantern with my improvement attached.

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

A is the glass globe of the lantern; B, side tubes; C, oil-pot; H, base of lantern; D, lens, which may be concavo-convex or plano-convex, as shown, or it may have any other optically-constructed lens; E, wire frame or holder semi-elliptical or semicircular in form, best made of steel wire, as it will have to have considerable spring in fitting lanterns of different sizes. The top and bottom, together with the vertical wires F F, will be all in one piece, the ends soldered together, and will only go on the face of the lens. The wires *e e* will be wrapped fast to it at G G, then twisted over the lens and run along the inner rim of the lens above and below. The wires *f f* will be wrapped around the wires *e e* on the inside of the rim, thereby holding the top and bottom wires *e e* together, and thus the lens will have a wire on all of the inner rim and only above and below on the face.

What I claim is—

In a tubular lantern, the detachable semi-elliptical or semicircular spring-wire frame E E E E, the ends of which grasp the side tubes B B and are joined together by the vertical wires F F, in combination with the separate back wires *e f*, wrapped onto the spring-wire frame at G, substantially as specified.

ALBERT L. FRANCE.

Witnesses:
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