

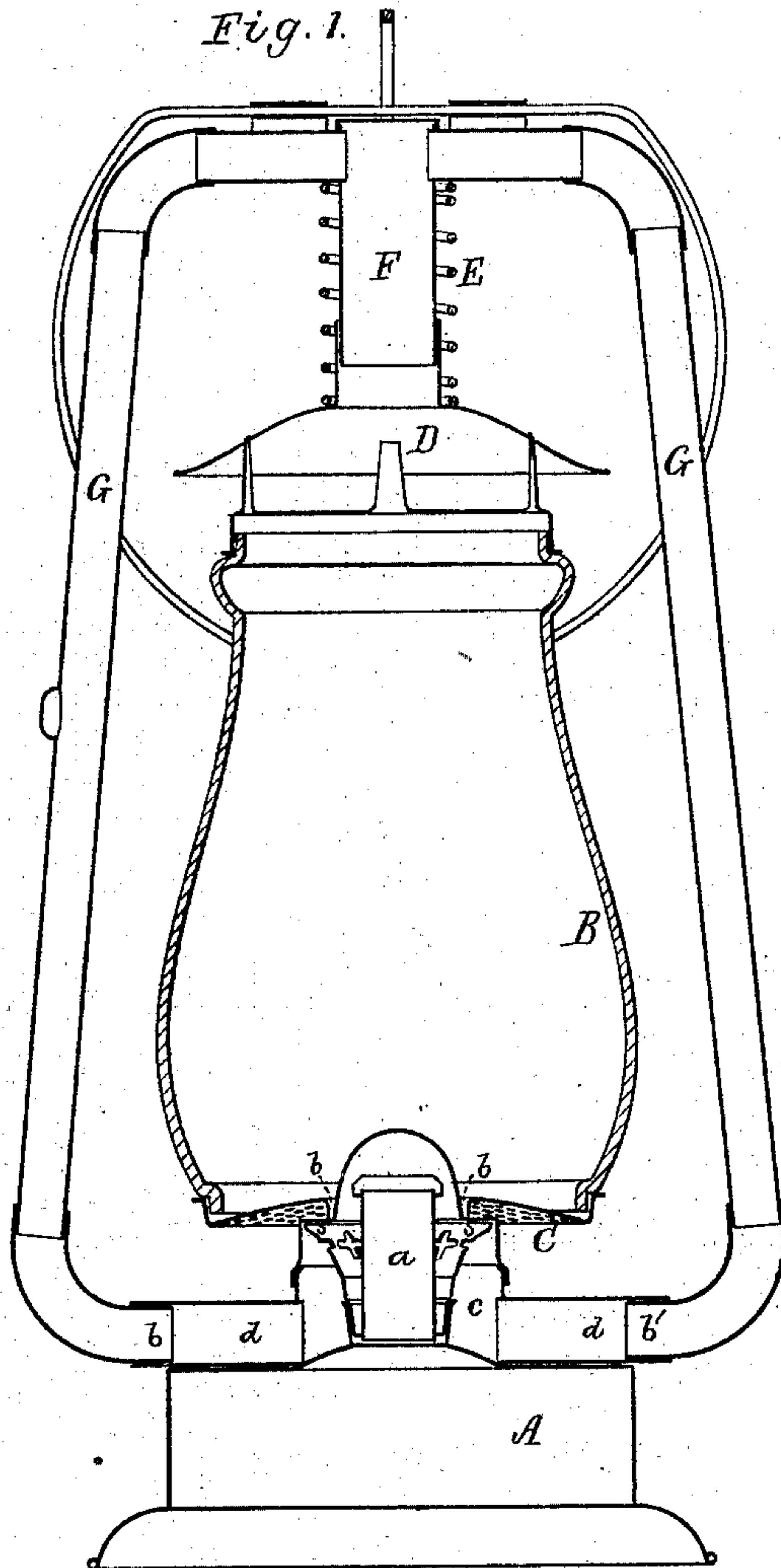
(No. Model.)

E. J. HALE.  
TUBULAR LANTERN.

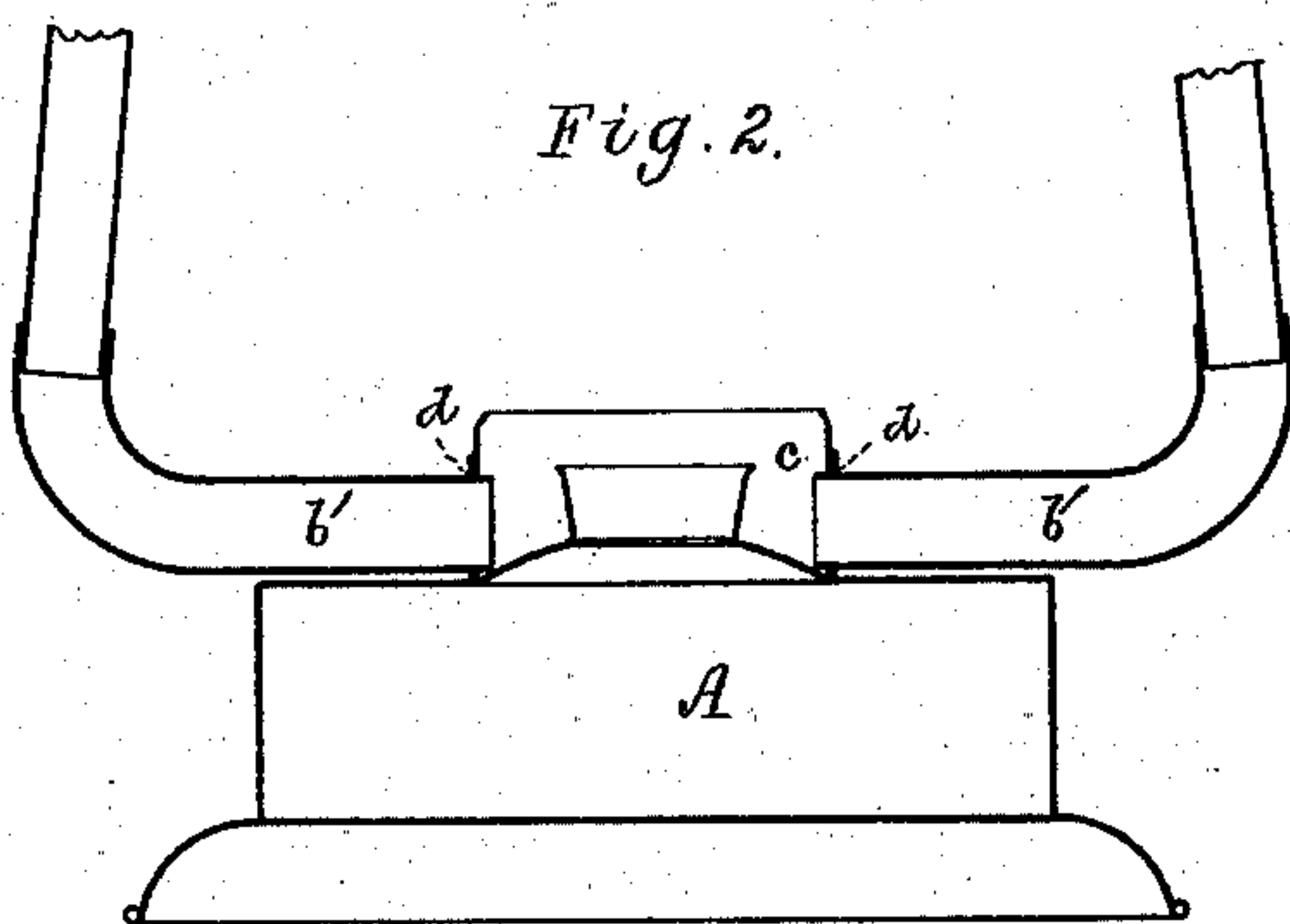
No. 252,315.

Patented Jan. 17, 1882.

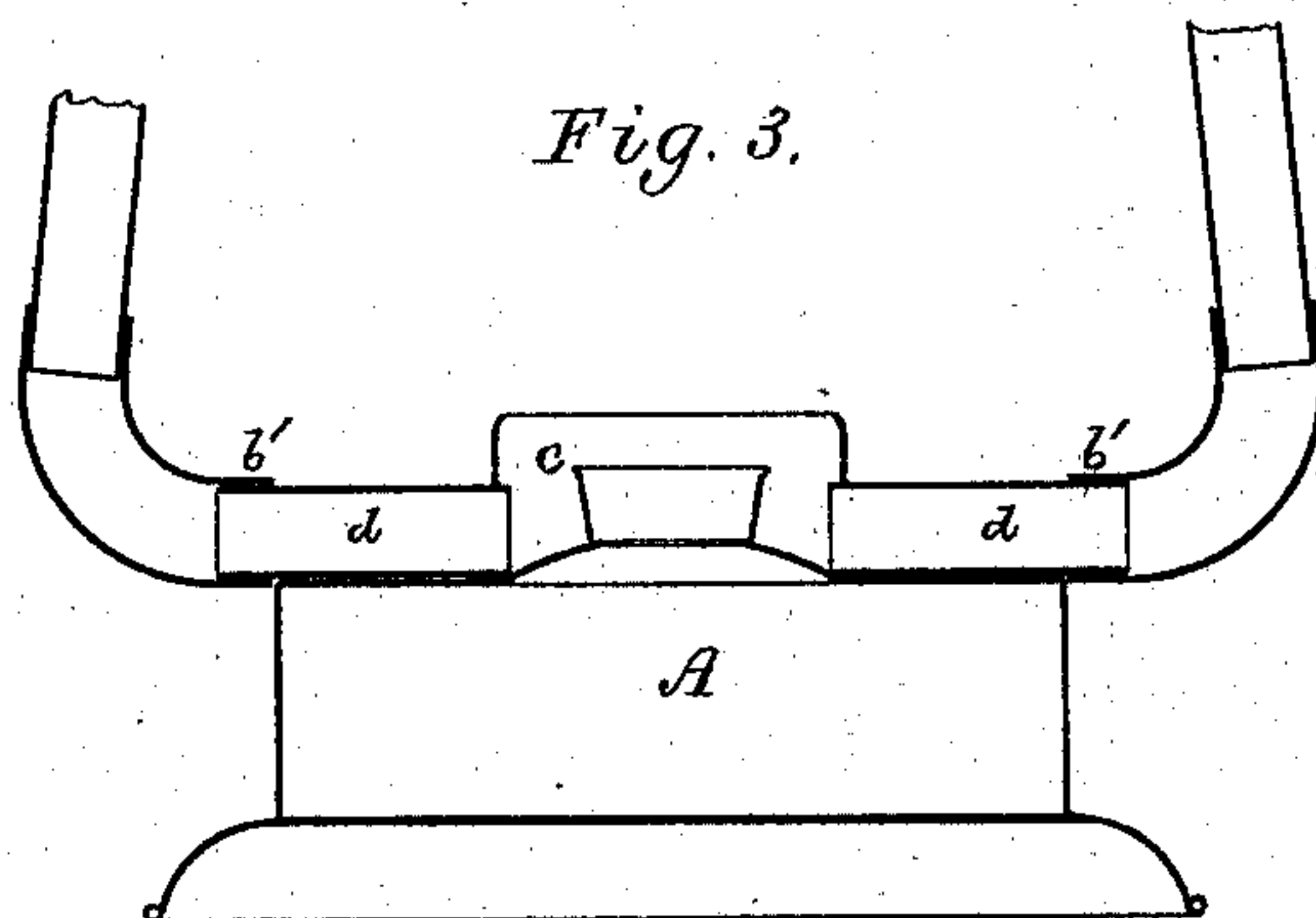
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses.

S. N. Piper.

E. B. Pratt.

Inventor.

Elias J. Hale.

by R. H. Ledy atty.



# UNITED STATES PATENT OFFICE.

ELIAS J. HALE, OF FOXCROFT, MAINE.

## TUBULAR LANTERN.

SPECIFICATION forming part of Letters Patent No. 252,315, dated January 17, 1882.

Application filed November 25, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, ELIAS J. HALE, of Foxcroft, of the county of Piscataquis and State of Maine, have invented a new and useful Improvement in Tubular Lanterns; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a vertical section of a tubular lantern of my improved construction. Fig. 2 is a section of the lamp, showing the lower horizontal portions of the air-duct journaled in bearings formed in the lamp, such portions in Fig. 1 being represented as inserted in tubular bearings projecting from the lamp. Fig. 3 is a section of the lamp, showing the lower horizontal portions of the air duct journaled upon tubular bearings projecting from the lamp.

My improvement, the nature of which is defined in the claim hereinafter made, relates to the manner of combining the air-duct with the lamp in order to admit of such duct, with the flame-guard and its supporter, being tipped back relatively to the lamp, so as to uncover the wick for ready access to be had to it, whether for lighting or trimming it.

In the tubular lantern represented and described in the United States Patent No. 230,391 the air-duct is in two parts or sections hinged together. The lower section, fastened to the lamp, had portions of it extending upward with horizontal open ends. As a consequence, on the upper section being tipped down the air-duct became opened at the joints of the sections, whereby the flame was very liable to be extinguished by wind or a current of air blown suddenly into either of the openings. Besides this, a person while holding lower section was liable to have his hand caught and pinched or injured between the sections while the upper one was in the act of being moved forward to place over the lower one. My improvement not only saves the necessity and cost of hinges to the air-duct, but keeps the duct closed while it is being tipped back, thus rendering it impossible for the flame to be extinguished from the cause above mentioned.

In the drawings, A denotes the lamp or base portion of the lantern, it being provided with a burner, *a*, such as is generally used for burning a hydrocarbon. The glass flame-guard B

rests at bottom on a foraminous dish, C, encompassing the cone of the said burner, and resting on the annular shelf *s* thereof, the hole *b*, for reception of the cone, being of a diameter sufficient to allow of the dish being tipped backward on its support with the air-duct so as to uncover the burner for access being readily had to the upper part of the wick, whether for inflaming or trimming it.

The flame guard, usually made of glass, is held down upon the disk by an open metallic cap or dome, D, and a spiral spring, E. The dome slides freely on and encompasses the vertical air-tube F, extending down from and opening out of the air-duct G at its crown. This air-duct F, arranged as shown, serves, with the double-branched air-duct G, to conduct air down into the burner.

The spiral spring E presses the dome down upon the flame-guard and keeps it in contact with the dish C. The upper part of the said guard enters a short distance the mouth or lower part of the dome.

The air-duct G, double-branched or formed as represented, has its lower horizontal portions, *b' b'*, in one piece with the rest of it and journaled to the lamp—that is, each of the said portions extends into a circular opening in the walls of the air-chamber *c* of the lamp, or into or encompasses a tubular extension from such air-chamber—all being so that air may pass freely through the duct into the chamber, and the duct, with the flame-guard and its supporting-dish, may be tipped back, so as to uncover the wick of the burner, in order for access to be had thereto, the spiral spring allowing the dome and flame-guard to rise on or relatively to the tube F, as may be required to admit of the air-duct G being so tipped backward.

In Fig. 1 the lower horizontal portions, *b' b'*, of the duct G are shown as adapted to turn in tubular bearings *d d*, projecting from and opening out of the walls of the air-chamber of the lamp. In Fig. 2 the portions *b' b'* are shown as adapted to turn in bearings or holes *d d*, applied to or formed in the said walls.

From the above it will be seen that the air-duct G is substantially in one piece or section, and turns in bearings which prevent no lateral opening for ingress of air when the duct is tipped backward.

I do not herein claim the air-duct constructed in two separate sections arranged and hinged together in manner as represented and described in the aforesaid patent

5 I claim—

In the tubular lantern, the air-duct G, having its lower tubular portions, *b' b'*, supported by and adapted to revolve or turn in bearings

in or projecting from the air-chamber of the lamp and opening into such chamber, all being substantially as set forth.

ELIAS J. HALE.

Witnesses:

R. H. EDDY,  
E. B. PRATT.