

J. A. Frey,
Lamp Burner.

No. 64,965.

Patented May 21, 1867.

Fig. 1.

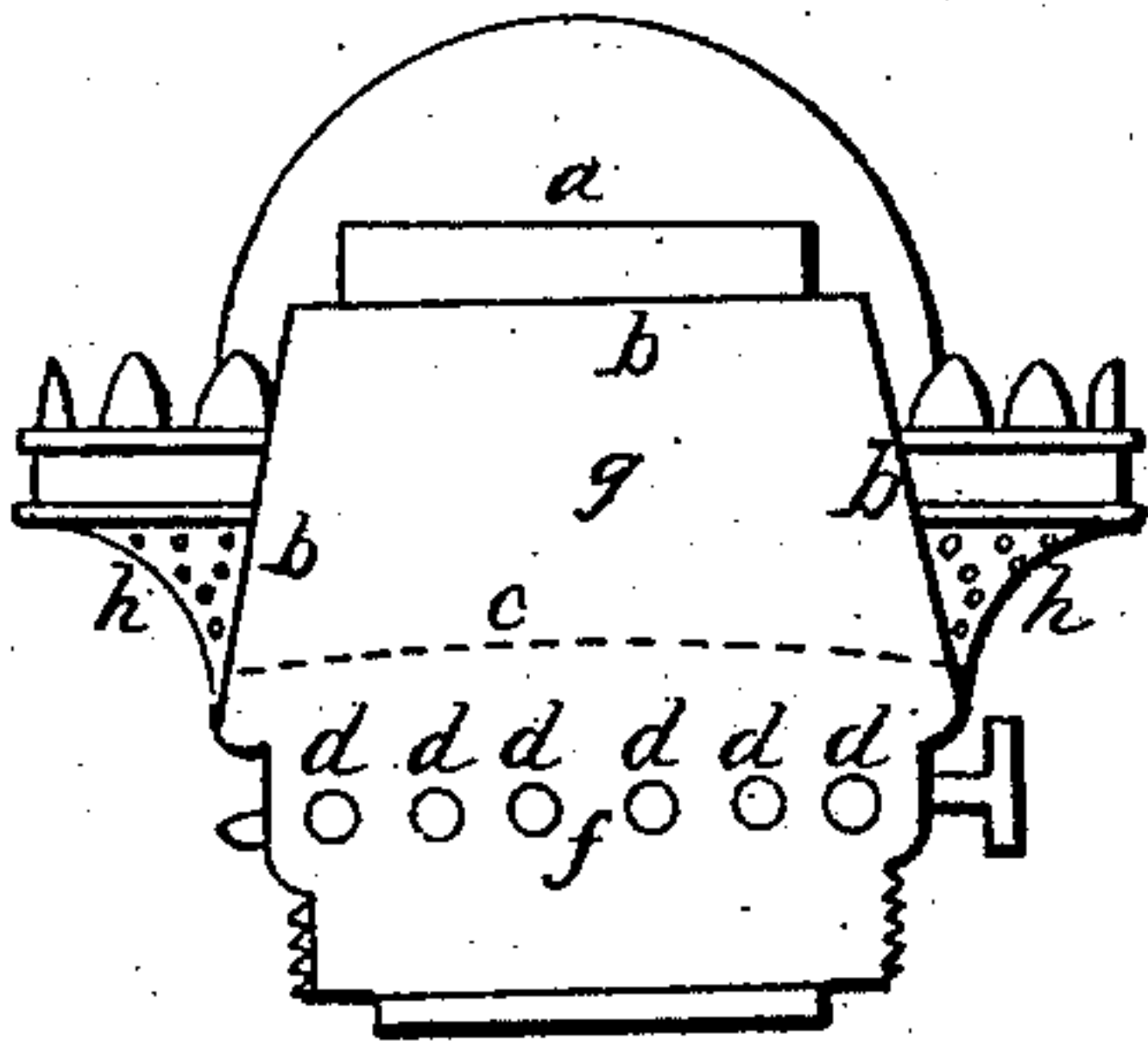


Fig. 2.

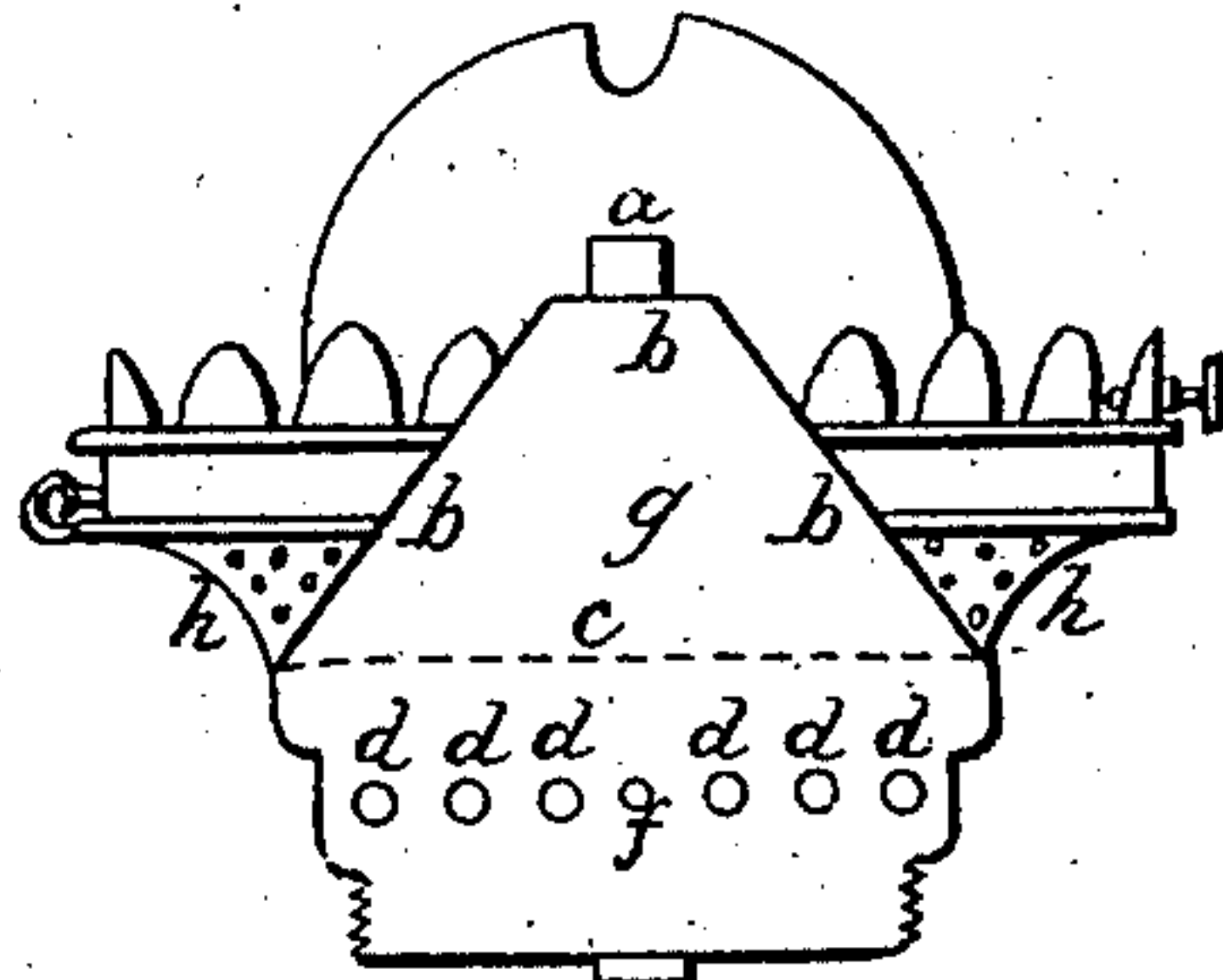


Fig. 3.

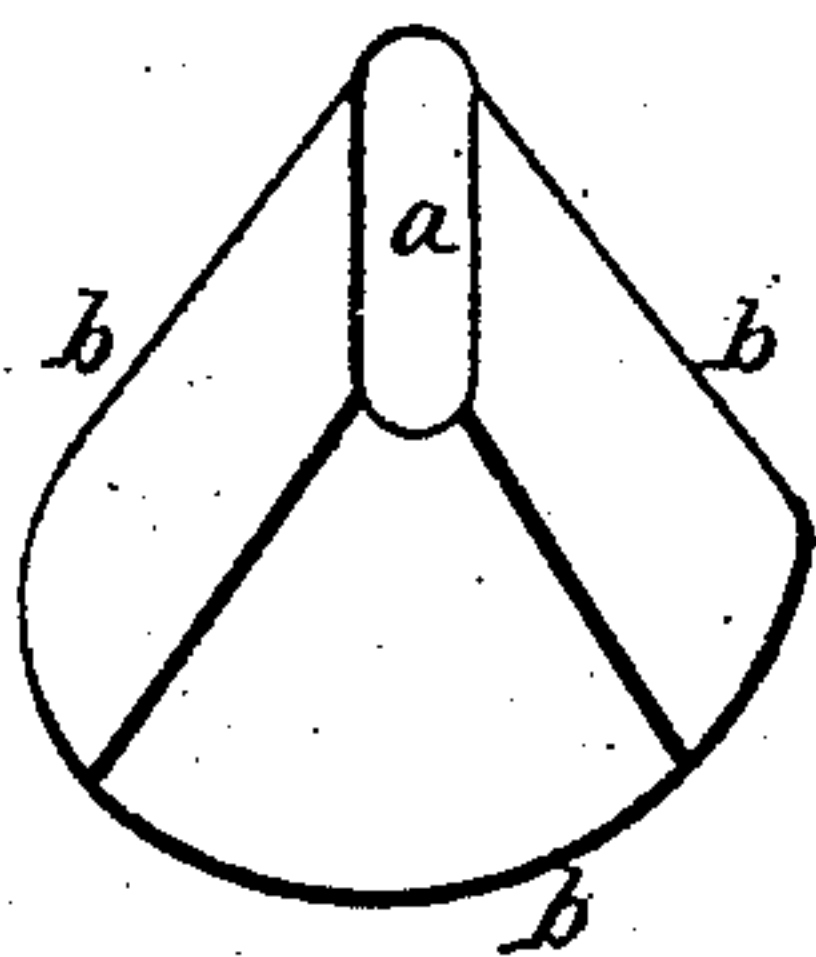
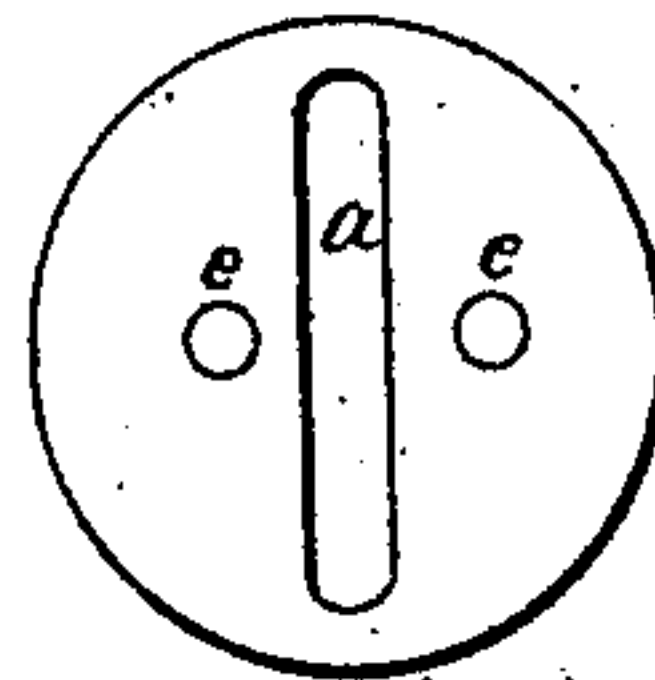


Fig. 4.



Witnesses.

John Allen
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Inventor.

John A. Frey

United States Patent Office.

JOHN A. FREY, OF NEW YORK, N. Y.

Letters Patent No. 64,965, dated May 21, 1867.

IMPROVEMENT IN LAMP-BURNERS.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, JOHN A. FREY, of the city and county of New York, in the State of New York, have invented a new and useful improvement in Lamp-Burners, which is applicable also to burners of fluids for producing heat; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a vertical section of a lamp-burner, showing the top of the wick-tube marked *a*, and a side view of the conoid cap, marked *b b b*. A diaphragm is marked *c*, and air-inlets perforated in the shell of the lower section of the burner are marked *d d d d d d*, and *f* and *g* being lower and upper air-chambers.

Figure 2 represents the burner with an end view of the conoid cap in place.

Figure 3 is a perspective view of the conoid cap, in which *a* represents the space for the wick-tube.

Figure 4 is a plane section of the bottom of the burner, in which *a* represents the wick-tube, *e e* vent-holes.

By means of this device and arrangement, I make two separate air-chambers and two separate draughts to supply air for combustion: first, the usual chamber, marked *h h*, supplying air through the upper section of the shell of the burner; and, second, a double air-chamber, marked *f* and *g*, formed by the conoid cap *b b b*, divided transversely by the wire cloth or perforated sheet metal diaphragm *c*, and supplied with air through the perforations *d d d d d d*, in lower section of the shell of the burner, thus securing an additional and independent draught of air. The diaphragm *c* is substituted for the ordinary plate across the lower section of the burner; the conoid cap entirely covers the diaphragm, rests upon the outer edge of it, and against the shell of the burner, fitting closely to the inside thereof all around it, and rises nearly to the top of the wick-tube, closing around the latter within about an eighth part of an inch, leaving an air space of that width between it and the tube. The conoid cap performs the office of a chimney for the lower or double air-chambers *f* and *g*. It creates a draught through the holes *d d d d d d*, and conducts the air together with any vapor which may arise from the oil reservoir through the vents *e e* directly upon the top of the wick-tube and base of the flame, which, from the increased supply of air, produces more perfect combustion of the oil or other burning fluid, materially increases the light; besides which, it is a deodorizer, as no unconsumed gas or vapor from the oil escapes into the room. Another effect of this device is, that the draught of air concentrated upon the wick-tube keeps the tube cool, so that the oil or burning fluid in the reservoir is not vaporized by the heat of combustion conducted by the tube as in ordinary burners; and hence also explosions from heated vapors are prevented. The office of the wire cloth or perforated diaphragm is to diffuse and equalize the flow of air and vapor, if any vapor there be, and so aid in maintaining equal combustion and steady light, and also to prevent the flame of the lamp from following vapors or gases into the reservoir and exploding the lamp, as frequently happens with the use of the vented plate of ordinary burners. It also supports the wick-tube the same as does the usual plate.

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

The combination of the air-chambers *f* and *g*, with the air-inlets *d d*, and perforated diaphragm *c*, arranged and operating as and for the purpose set forth.

JOHN A. FREY.

Witnesses:

JOHN ALLEN,
CHAS. SEARS.