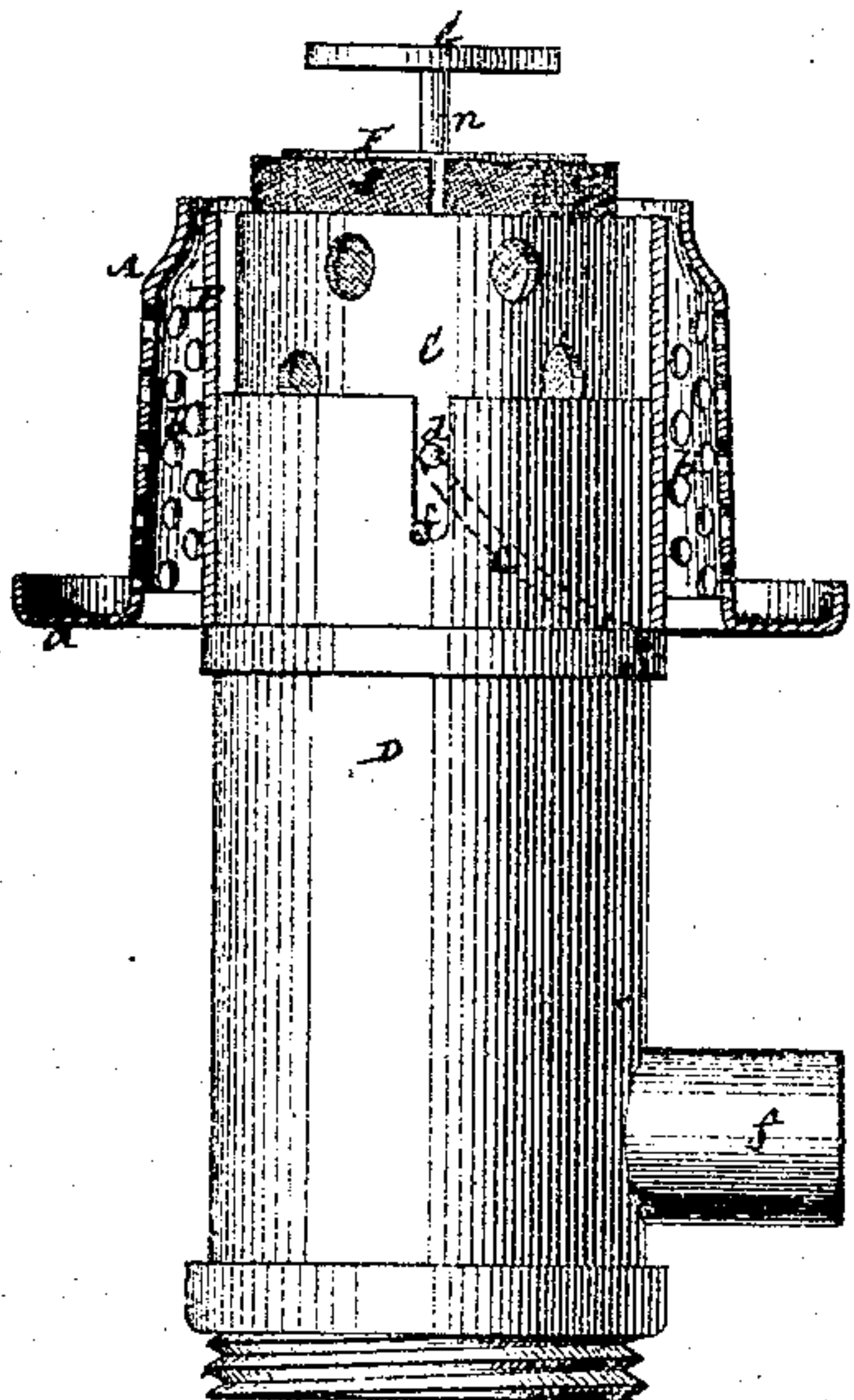


*Thomas H. Mott. Improv<sup>d</sup> in Argand Burners for Lamps.*

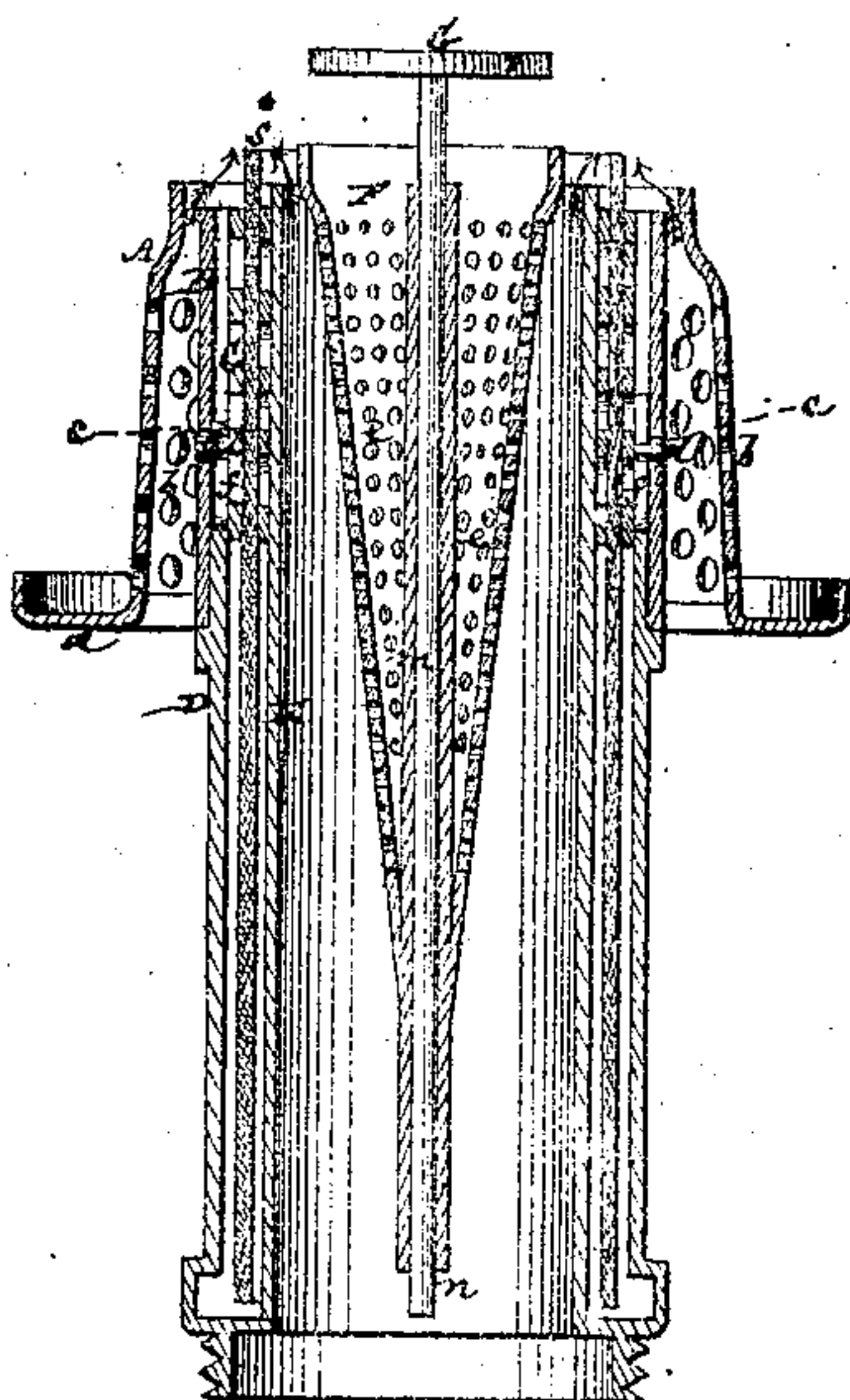
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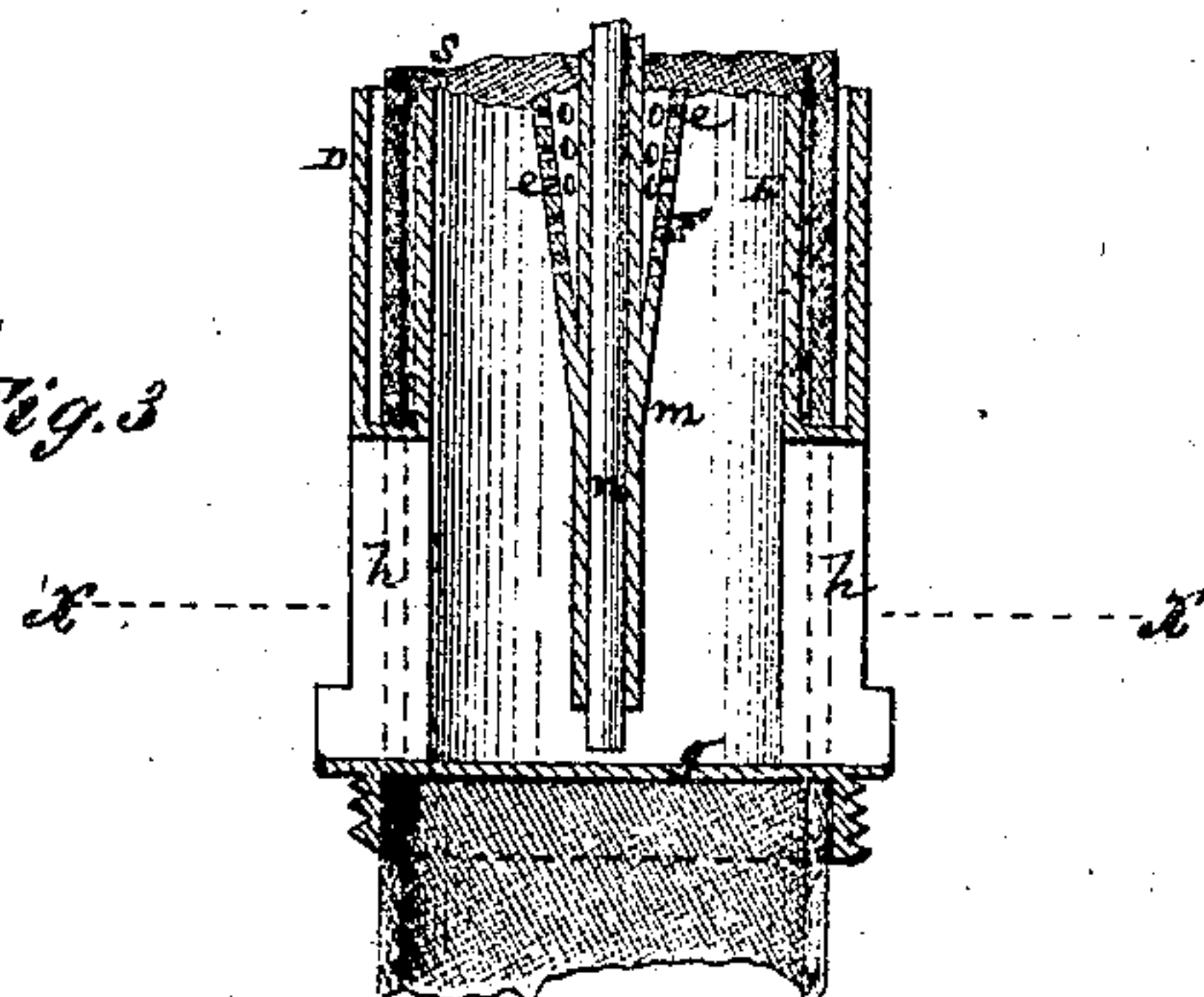
*Fig. 1*



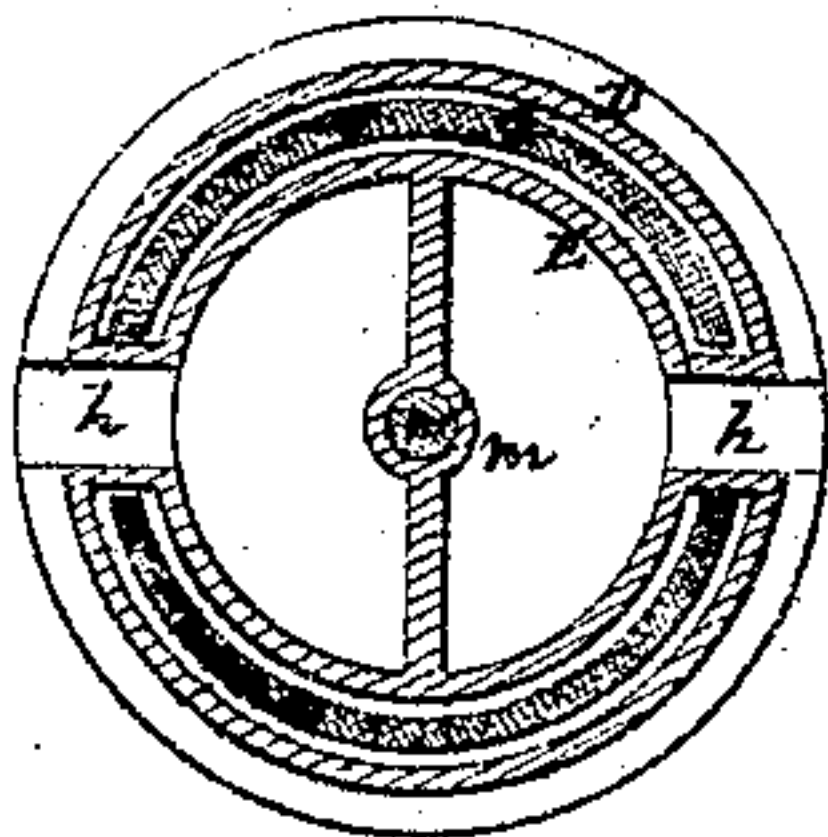
*Fig. 2*



*Fig. 3*



*Fig. 4*



*Witnesses.*

*Fred Hayner*  
*R. E. Rabreau*

*Thomas H. Mott*



# UNITED STATES PATENT OFFICE.

THOMAS H. MOTT, OF NEW YORK, N. Y.

## IMPROVEMENT IN ARGAND-LAMP BURNERS.

Specification forming part of Letters Patent No. 116,984, dated July 11, 1871.

*To all whom it may concern:*

Be it known that I, THOMAS H. MOTT, of the city, county, and State of New York, have invented a new and useful Improvement in Argand Burners for Lamps, of which the following is a full, clear, and exact description:

In the drawing, Figure 1 is a partly-sectional elevation of a lamp-burner constructed in accordance with my invention, and Fig. 2 is a central vertical section of the same, both of said figures representing the burner as made for what is termed a "student's lamp." Fig. 3 is a central vertical section of the lower portion of the burner as constructed for application to an ordinary lamp, and Fig. 4 a horizontal section through the line *xx* in Fig. 3.

Similar letters of reference indicate corresponding parts throughout the several figures.

My invention consists in a certain combination of an inverted perforated central or inner cone with the wick-tube of the burner; also, in a combination of an outer perforated cap or shell with said inverted cone, whereby air to keep up combustion is more perfectly supplied to the burning portion of the wick as well as around and within the body of the flame. The invention also includes a novel combination of a flame-spreader and regulator or button with said inverted perforated inner cone, wick-tube, and outer perforated shell, and whereby the stem of the button is carried and guided by the inverted cone.

In the accompanying drawing, A represents the outer cap or shell of the burner, formed with a flange, *a*, at its base, on which the chimney rests. The body of said cap is perforated, as at *b*, throughout the greater portion of its length, but its top edge left plain and curved or inclined inward. Within, and attached to said cap, is a cylindrical shell or tube, B, that has formed in it on opposite sides spiral slots *c*. These slots are open at the bottom and receive within them pins *d*, attached to the wick-holder C. Between the upper edge of the tube B and the adjacent portion of the cap A there is left an air-space around the outside of the burning portion of the wick *s*, the upper edge of the cap serving to conduct the air to what may be termed the point of combustion. Immediately inside the lower portion of the tube B there is arranged to extend the upper end of a tube, D, which forms part of the wick-tube and has opposite vertical slots *f*

in it, through which the pins *d* of the wick-holder project into the spiral slots of the tube B. The object of the slotted construction of the tubes B and D, and fit of the pins *d* therein or through, is to provide for the raising and lowering of the wick by turning the cap A and its cylinder. E is a tube of considerably smaller diameter than the tube D, with which it is combined to form the wick-tube. When the burner is to be applied to a bracket or to a student's lamp it is provided on one side with an oil-tube or connection, *f*, for establishing communication with the reservoir, and the wick-tube is closed at its bottom, but the space within the wick-tube is left open below for the draught in a straight line or course up through it. When, however, the burner is to be applied to an ordinary lamp or to screw or fit by a cap at its base, as represented in Figs. 3 and 4, to a reservoir below, then the wick-tube D E is left open at its bottom for the passage of the wick into the reservoir, and the space within the tube E is closed below, as shown at *g*, and the wick-tube provided with side-draught openings *n*. F is an inverted hollow cone which is arranged within the wick-tube so as to leave an opening between its upper edge and the wick-tube for the passage of air to the interior of the burning portion of the wick. This cone is of a perforated construction, as at *e*, but its upper-edge portion is left plain and it has formed in or through it a socket, *m*, for the passage and guidance of the stem *n* of a flame-spreader and regulator or button, G, which is raised or lowered either directly or by means of any suitable attachment to adjust the flame as required. While the interior perforated cone F thus serves to carry and guide the flame-regulating button, the more immediate object of said cone is to direct a current of air in an impinging manner upon the interior burning portion of the wick, as well as by its perforations to pass a free supply of air through or within the body of the flame, like the perforated cap or shell A, by its arrangement relatively with the wick-tube, serves to direct an impinging current on the exterior burning portion of the wick as well as to pass a free supply of air to or around the outside of the flame. By the combination and arrangement, as described, of the perforated shell A and the perforated cone F with the wick-tube D E a most perfect combustion and brilliant light are obtained.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination of the hollow inverted perforated cone F with the wick-tube D E, essentially as herein set forth.

2. The combination of the perforated outer cap or shell A and inner inverted perforated cone F with the wick-tube of the burner, substantially as shown and described.

3. The combination of the flame-regulating button G with the inner inverted perforated cone F, the outer perforated cap or shell A, and the wick-tube of the burner, when arranged substantially as described.

THOMAS H. MOTT.

Witnesses:

MICHL. RYAN,  
FRED HAYNES.