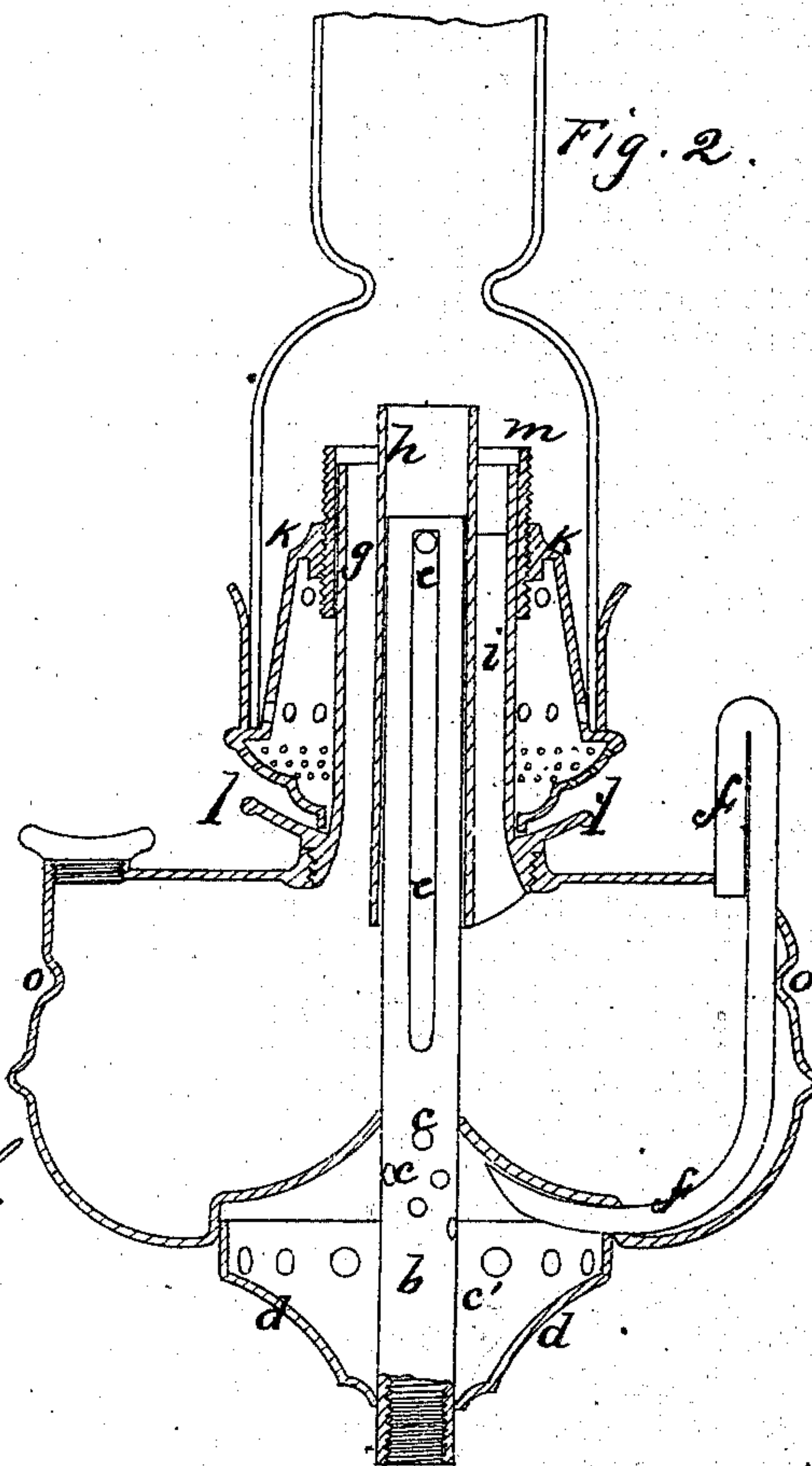
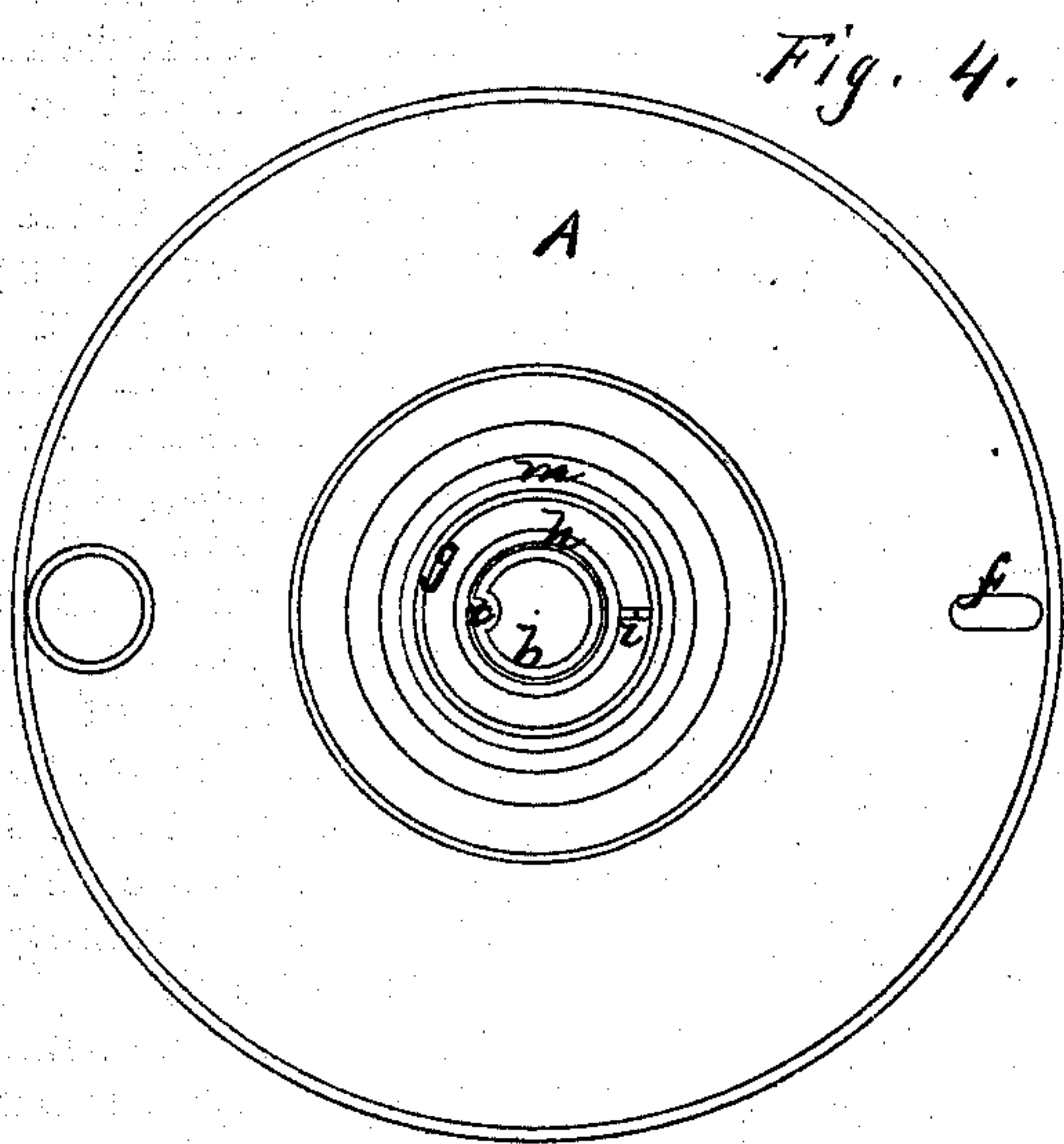
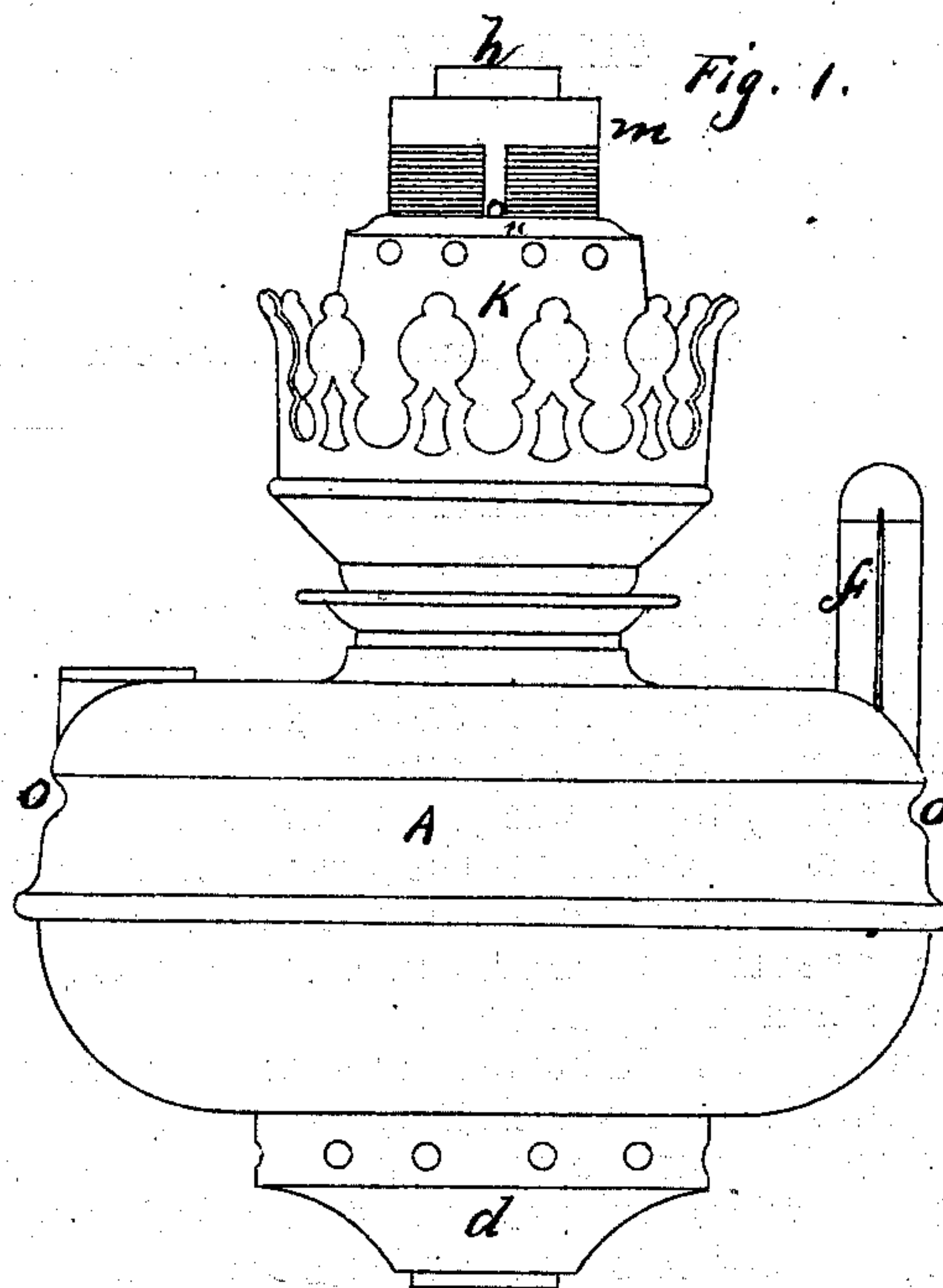
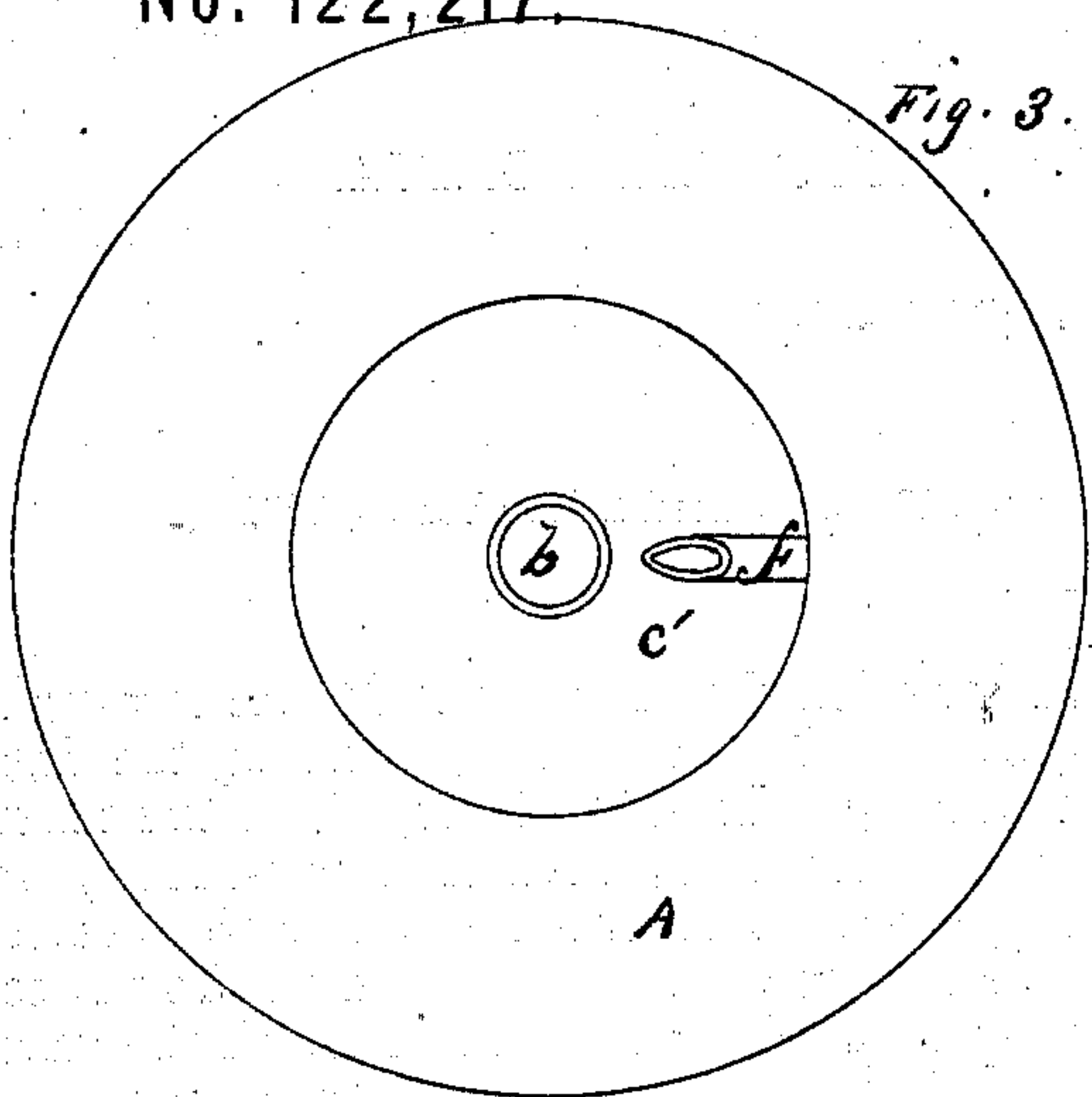


(90.) EMIL BOESCH.
No. 122,217.

Lamp.
Patented Dec. 26, 1871.



Witnesses

Inventor

Geo. H. Strong
Wm. Gerlach

Emil Boesch

UNITED STATES PATENT OFFICE.

EMIL BOESCH, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. 122,217, dated December 26, 1871.

SPECIFICATION.

To all whom it may concern:

Be it known that I, EMIL BOESCH, of city and county of San Francisco, State of California, have invented an Improved Safety-Lamp and Burner; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

My improvement in burners relates to that class of Argand burner in which the flame is regulated by turning the outer case of the burner; and it consists in a novel arrangement for regulating the flame by turning this case without raising or lowering the chimney. The lamp is provided with one or more ducts or passages, one of which may be used for conveying the gas which may be formed in the oil-holder to the central tube which feeds air to the flame, so that the gas and air will be mingled previous to their coming in contact with the flame, while the other can be used in the same manner, or simply to convey away the vapor from the oil-vessel and disperse it into a protecting air-chamber.

In order to more fully illustrate and explain my invention, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side elevation. Fig. 2 is a sectional view. Fig. 3 is a bottom view. Fig. 4 is a top view.

A represents the body or oil-vessel of the lamp. Passing up through the center of this vessel is the tube *b*, which supplies air to the flame. This tube extends down through the bottom of the vessel and a short distance below it, as shown. Just below the vessel perforations *c* are made in the tube, through which air can pass into it from the chamber *c'*, which is formed by the cap *d* around the tube on the under side of the vessel. Air is admitted into this chamber through perforations in the cap, thus avoiding too strong a draught by obstructing the passage of the air into the chamber and tube. The upper end of the tube *b* is channeled from the inside of the vessel to near the upper end of the tube, as shown at *e*, where an opening is made into the tube. This channel or duct serves to convey any gas which may be formed in the vessel into the tube *b*, where it is

mixed with the air previous to its coming in contact with the flame, thus avoiding the danger of explosion. In some lamps, where the central air-tube is not used, another safety-tube, *f*, may be employed. This tube rises from the vessel at one side and is bent upon itself, as shown, so as to pass back either into and through the vessel and into the chamber at the bottom, or it may pass outside so as to form a handle to the lamp. This tube also serves to convey any gas which may form from the vessel to the chamber *c'*, where it will be dispersed through the perforations in the chamber into the air in such a diluted state as to be unflammable. Either one or both of these last-described devices may be employed on any one lamp, according to its construction. These tubes serve to keep the oil-vessel free from gas by conveying it away as fast as it is formed, thus entirely avoiding the danger of explosion from this cause. My burner consists of a solid outer tube, *g*, and an inner tube, *h*, the latter being of a proper size to slip down over the air-tube *b* and form a continuation of it, and by covering the tube *b* forms a perfect duct of the channel *e*, through which the gas passes to the interior of the air-tube. The tube *g* is somewhat larger at the bottom than at the top, and the two tubes are united together by a single rib, *i*, upon one side, as shown at Fig. 4, thus permitting the use of a single flat wick of the proper width. The tube *g* being largest at the bottom will allow the wick when inserted to form a complete circular wick at the upper end. In the ordinary Argand burner the outer case *K* screws down upon the tube *g*, and the flame of the wick is regulated by turning the case up or down as required to expose more or less of the wick. This case also supports the chimney, which is also moved up and down with it. Owing to the peculiar shape of the chimneys employed on this class of burners it will be readily seen that as the case is screwed down to increase the size of the flame the narrow portion of the chimney is brought down nearer to the flame, thus increasing the liability of breaking the chimney, besides causing the flame to be inferior in quality. In my burner the case *K* simply rests down upon the flange *l*. A thimble or ring, *m*, passes down over the upper end of the tube *g*, and is provided with screw-threads so as to screw down into the upper end of the case *K*. This ring is slotted upon one side, and a projection, *n*, on the tube *g*, enters the slot

so as to prevent the thimble from turning; thus when the case K is turned the thimble will be raised or lowered by the screw, so as to regulate the flame without altering the position of either the case or chimney.

By this method of constructing lamps I render them simple, safe, and convenient, while my improvements in the burner render, also, it perfectly safe and increases the quality of the light. By constructing the tube *g* without openings or slots in its sides I avoid the danger of firing the wick inside of the burner, a result liable to happen at any time when slots are used, as in some of the burners of this class.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with the tube *h* of the burner, the air-tube *b*, channeled, as described, when said channel communicates with the interior of the tube, as shown at *e*, all constructed and arranged substantially as described.

2. In combination with the chimney-supporting case K and tube *g*, the thimble or ring *m*, arranged to move up and down by the revolution of the case, substantially as and for the purpose set forth.

In witness that the above-described invention is claimed by me I have hereunto set my hand and seal.

EMIL BOESCH. [L. S.]

Witnesses:

GEO. H. STRONG,
WM. GERLACH.

(90)