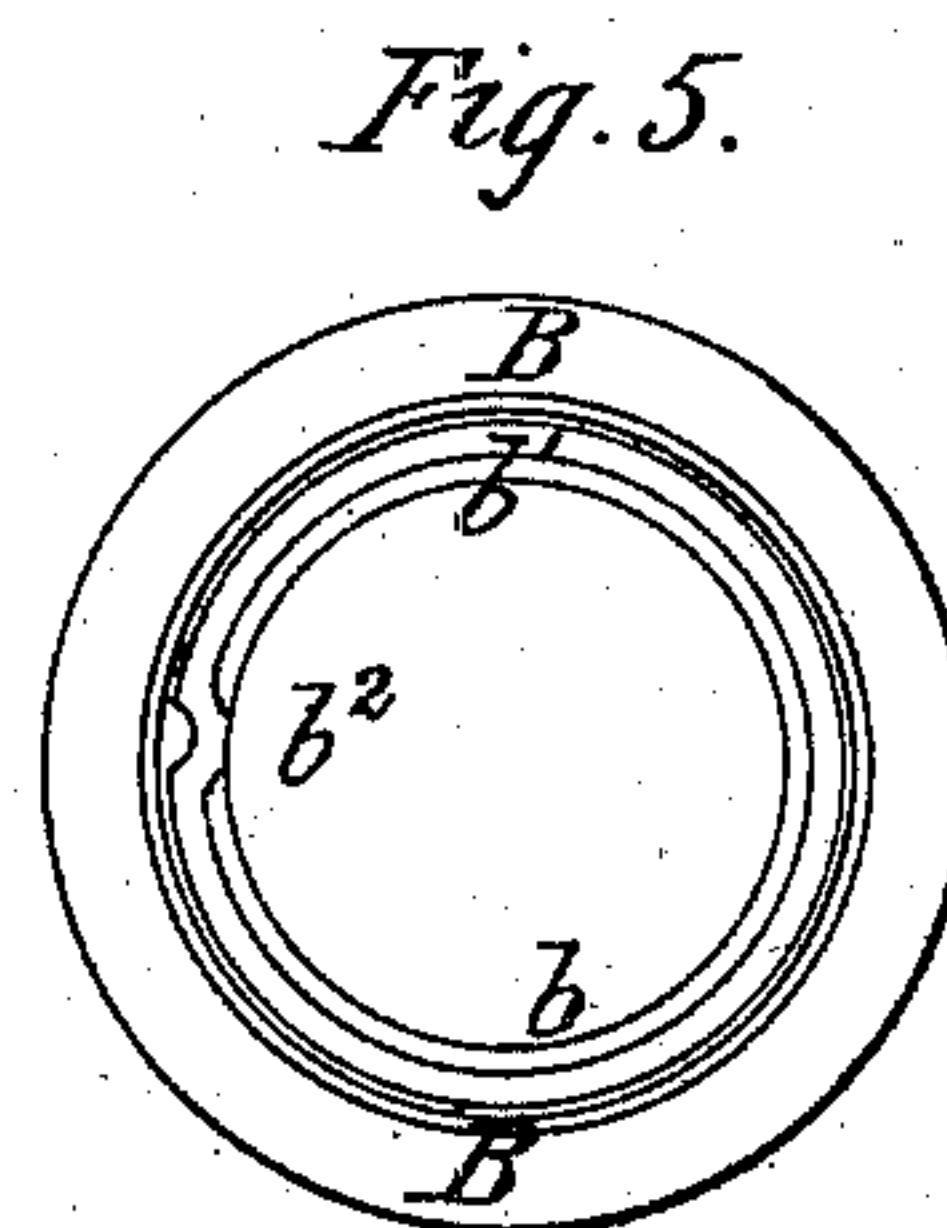
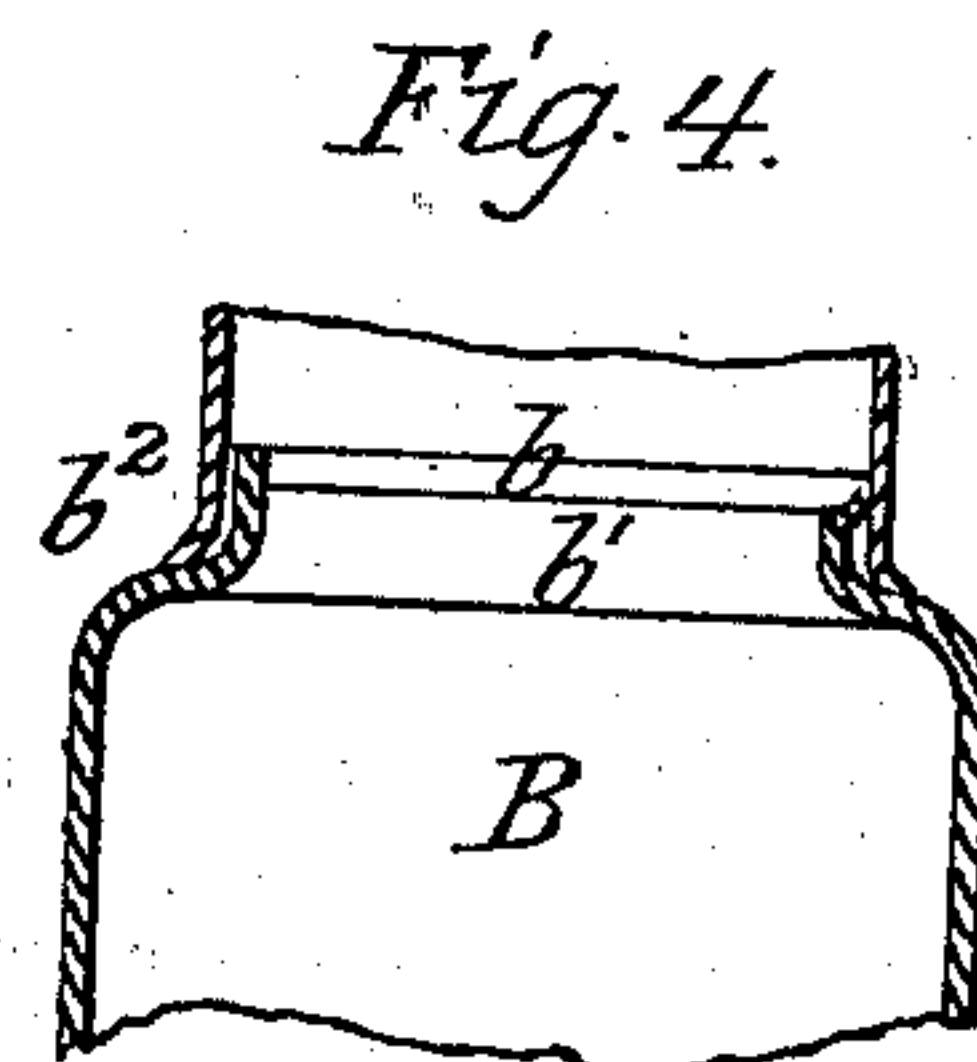
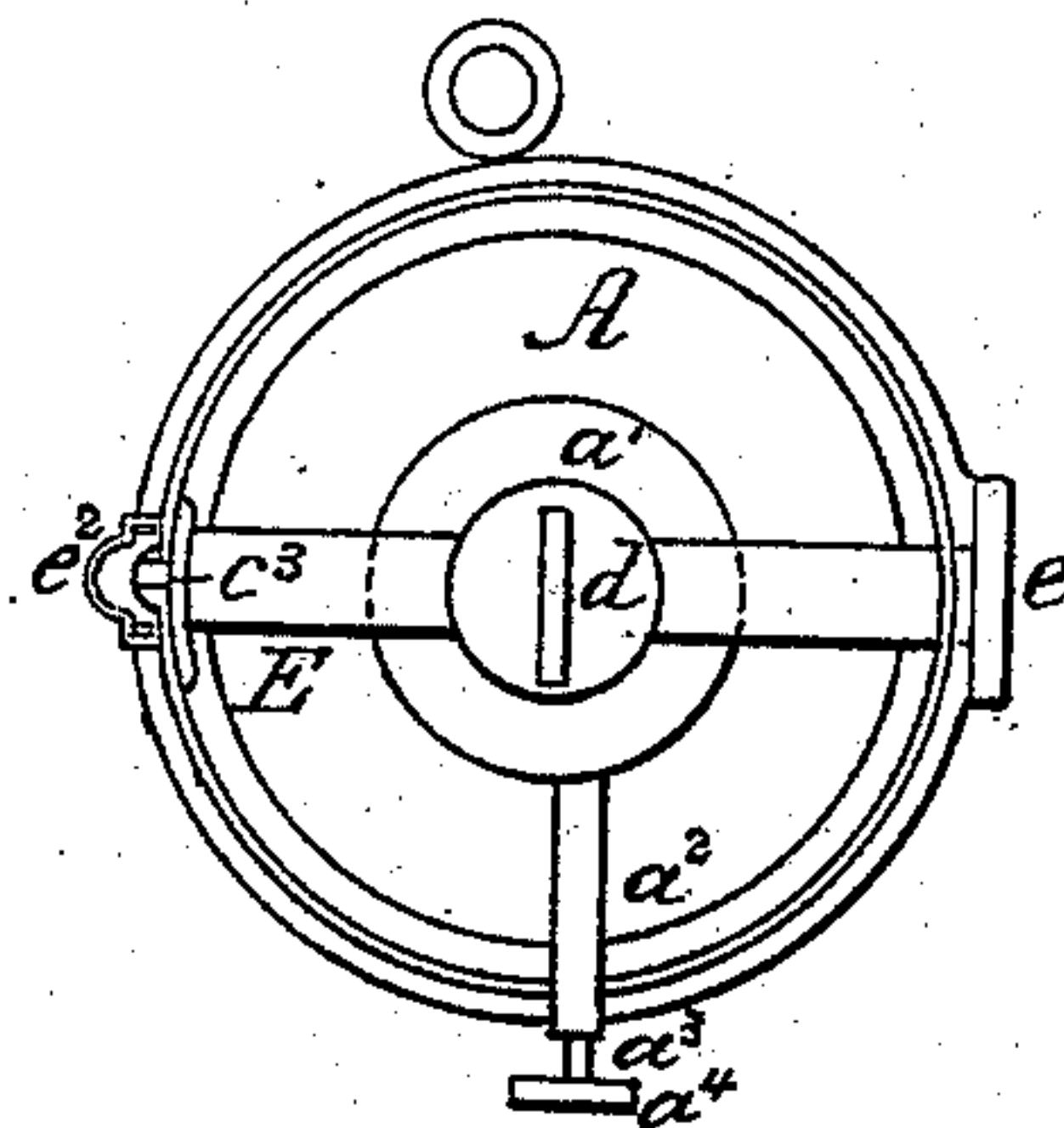
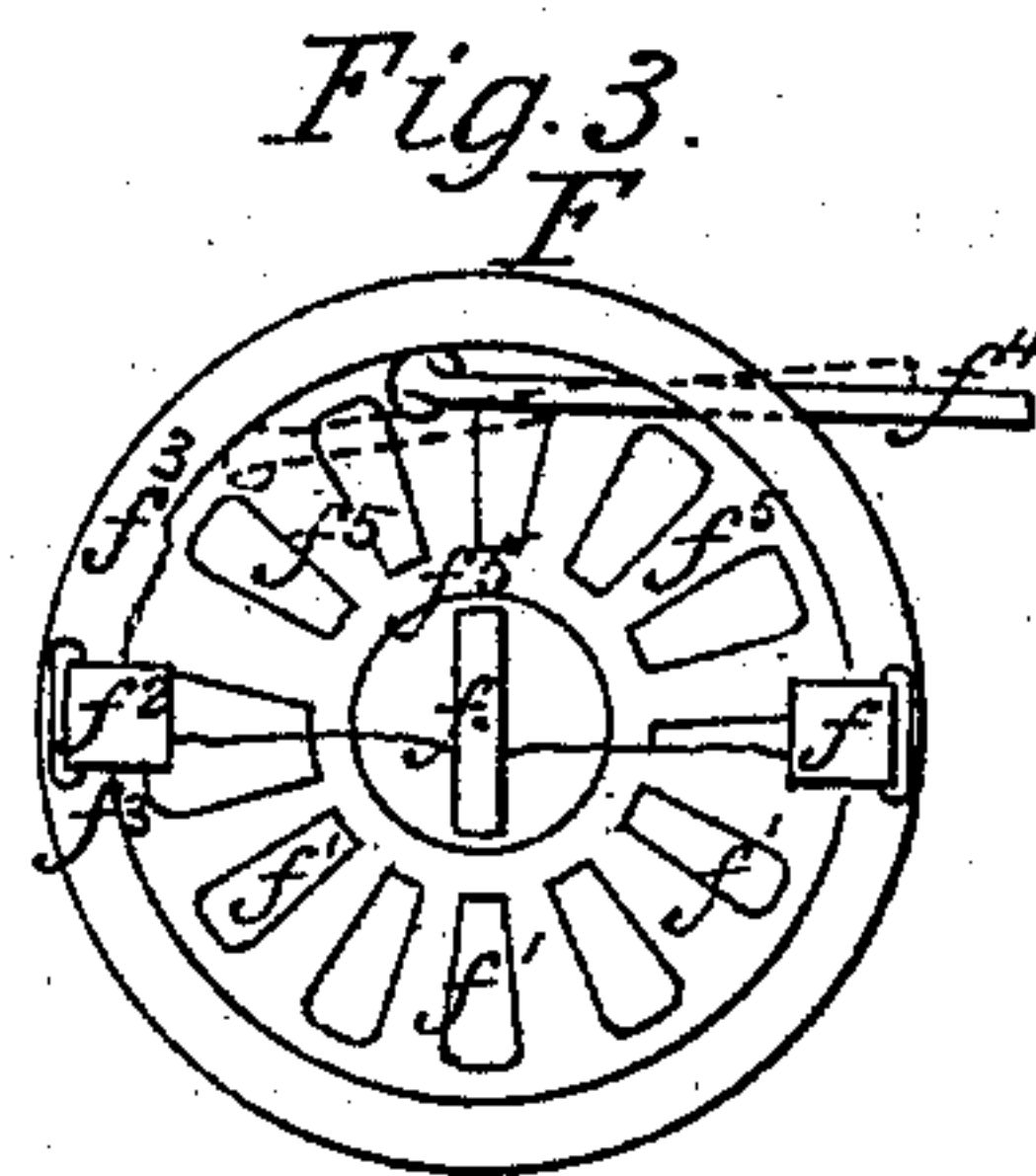
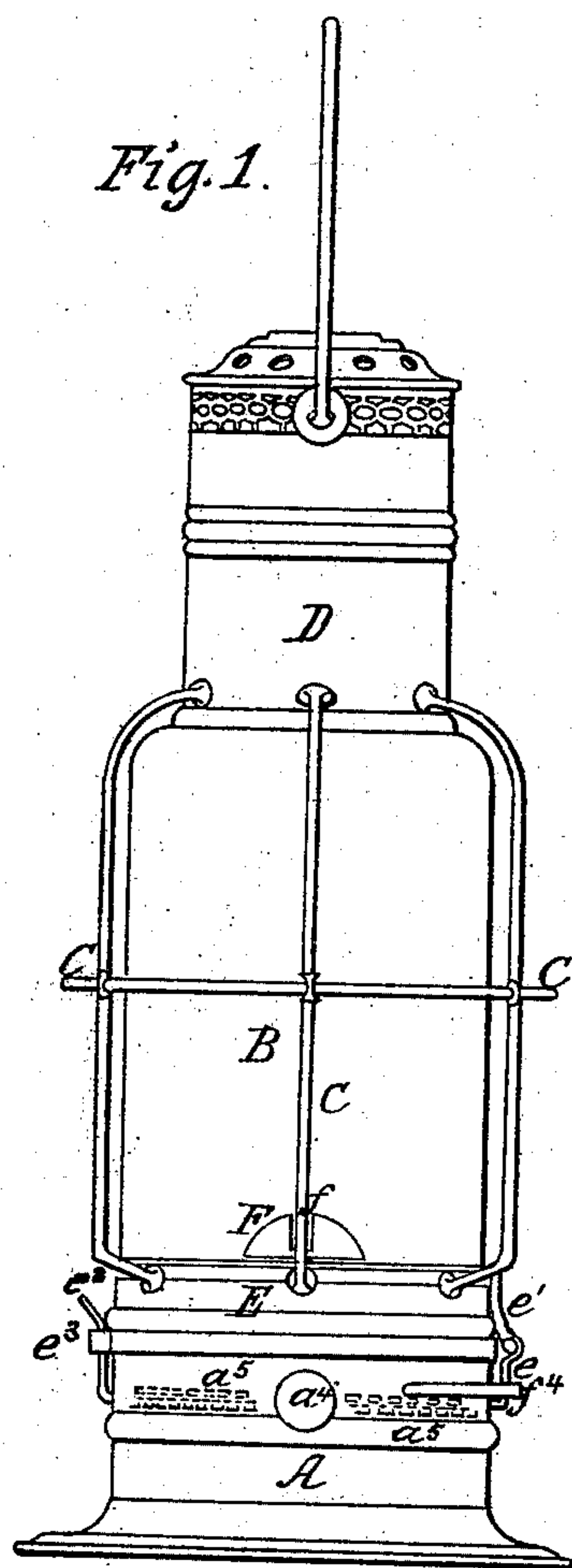


F. MEYROSE.

Lantern.

No. 58,122.

Patented Sept. 18, 1866.



Witnesses;

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. 58,122, dated September 18, 1866.

To all whom it may concern:

Be it known that I, F. MEYROSE, of the city and county of St. Louis, and State of Missouri, have made certain new and useful Improvements in Lanterns; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 of the accompanying drawings is a side elevation of the improved lantern. Fig. 2 is a plan of the top of the oil-pot, showing a portion of the spring and pin which connect the base or oil-pot with the globe and fenders in section. Fig. 3 is a plan of the bottom of the cap, in one half of which view the ventilator is shown opened and in the other half it is closed. Fig. 4 is a section through the top part of the globe and the surrounding metallic band. Fig. 5 is a plan of the same parts represented in the last figure, taken on the line *ab* in Figs. 1 and 4.

The nature of this invention relates, first, to the construction of the top of the oil-pot and the connection therewith of a tube inclosing the small rod or shaft which is employed for the purpose of raising or lowering the wick. By the employment of this tubing any condensed gases or other fluid which may escape from the interior of the oil-pot through the orifice formed therein for the passage of the said rod or shaft will be conducted by the said tube outside of the lantern, where there can be no possible danger from ignition or explosion.

Secondly, the invention relates to the construction of the cap which surrounds the burner, by means of which cap the lantern becomes a no-chimney lantern. This cap is constructed in a peculiar manner, of double thickness, and having orifices similar to a ventilating register. The lower plate of the cap is so constructed that it may be turned round in such a position as to close the said orifices, and thereby force all the air which is admitted to the lantern to pass up between the flame and the edges of the orifice through the cap, thereby greatly improving the quality and quantity of the light. When the ventilators are opened the lantern may be taken around any place, even in the wind, without incon-

venience, and immediately on restoring the lantern to quiet the ventilators will be shut, with the above-described beneficial effect.

Thirdly, this invention relates to the employment of a hook for attaching one side of the fenders and upper portions of the lantern to the oil-pot; and, fourthly, it relates to a peculiar construction of the top of the globe and the top band of the lantern, whereby the two parts are coupled together in a very cheap and expeditious manner.

The first two features of this invention relate to that class of lanterns which are designed to burn coal-oil. The two other features relate to improvements that will be common to all lanterns, whether burning coal, lard, or any other kind of oil, or even candles.

To enable those skilled in the art to make and use my improved lantern, I will proceed to describe its construction and operation.

A is the oil-pot of the lantern. B is the glass globe. C are the wire fenders outside of the globe, and D is the top band of metal on top of the globe. E is the bottom band, to which the lower ends of the fenders are attached; and F is the cap, which fits onto the top of the oil-pot and surrounds the wick-tube *a*. This tube *a*, which surrounds the wick and conducts it down into the oil-pot, is in its general features similar to those in common use. There is, however, this difference between this and other lanterns: In the present invention a cap, *a'*, is fitted to the top plate of the oil-pot and up around the wick-tube, and securely soldered both to the wick-tube and to the said top plate. Within the cavity thus formed between the cap *a'* and the top plate of the oil-pot the corrugated wheel (not shown) is placed, to turn the wick up or down. From one side of this cap *a'* a small tube, *a²*, is taken to the outside of the flange which surrounds the top of the oil-pot. This tube should be tightly soldered to the cap *a'*, and also to the said flange. Within this tubing *a²* the rod or shaft *a³*, which operates the concealed wick-wheel, is placed. The rod or shaft *a³* extends outside of the flange of the oil-pot sufficiently to receive the thumb-wheel *a⁴*.

When coal-oil is used in lanterns of the old make it frequently rises in the wick by capillary attraction to such an extent as to run out on the

top of the lantern through the orifice made in the side of the wick-tube for the device for raising and lowering the wick, and there becomes ignited from the flame of the light above, thus endangering the top of the oil-pot to excessive heat, and explosion may be the result. The gases which arise from the coal-oil may escape through the same orifice and become condensed on the top of the oil-pot, thereby subjecting the lantern to like disastrous results.

In order to overcome these difficulties in the use of coal-oil for lanterns, I employ the tubing a^2 to inclose the rod or shaft of the wick-elevator, as above described, and consequently any moisture which may escape on the said rod will be conducted by the said tube outside of the lantern, where it can do no harm.

In order to use coal-oil lanterns without chimneys for any and all purposes, I place the cap F on top of the oil-pot and around the wick-tube. This cap is conical in form, with a semi-spherical top, the apex of which is perforated with an elongated orifice, f , for the flame of the lamp. The cap is formed of two pieces of thin sheet metal, which fit closely together, and both of them are perforated with orifices f' , for ventilation. The inner or lower plate of the cap is held in its place within the other plate by means of the two lugs f^2 , which are soldered to the outer plate and overlap the inner plate, which rests on them loosely, and is permitted a slight rotating motion. There are two lugs, f^3 , formed on the edge of the inner plate on the opposite sides of and near to one of the lugs f^2 .

The rod f^4 is attached to the inner plate already mentioned, and extends outside of the flange of the top of the oil-pot, where the person using the lantern may take hold of it, and, by pushing it into the position shown by the red lines in Fig. 3, turn the inner plate around so that the solid plate f^5 between the orifices f' will cover the orifices which correspond with these in the upper plate. When these ventilating-orifices are closed, as above described, all the air which enters the lantern through the air-passages a^5 in the flange forming the top of the oil-pot must pass up through the flame-orifice f between the flame and the cap. Thus the whole volume of the air will be brought into immediate contact with the flame of the lamp at the very base of the flame, and the oxygen thus furnished to the flame will be introduced to it under the most favorable circumstances for a thorough combustion of the gases generated thereby, and the escape of unconsumed carbon in the shape of smoke will be almost, if not wholly, prevented, even though no chimney be used to inclose the flame and the heated gases.

Another advantage of this form of cap is that the current of air continually passing up through the orifice f between the flame and the cap will prevent the cap from becoming heated, and will thus afford another means of safety.

When it is desirable to travel around

through the open air with the lantern, the orifices f' may be opened by pushing in the rod f^4 , and the lantern-light will then burn in a similar manner to the present coal-oil lanterns.

The lugs f^3 are intended to strike the piece f^2 either in opening or shutting, thus forming a gage for the turning of the cap-plate, indicating either wholly closed or wholly open, without the trouble of looking at it.

The base of the cap F, when in position on the lamp, will come entirely above the air-orifices a^5 in the top flange of the oil-pot.

In the old make of lanterns the fenders and other upper portions of the lantern were attached to the oil-pot by means of lugs attached to one or the other part and arranged to slide in grooves and slots in the other part. Both this mode and the later one of attaching the two parts together by means of a hinge and catch were objectionable—the first on account of the difficulty often experienced in coupling the two parts together in the dark, and the other one on account of the inconvenience and the disagreeable necessity of cleaning the inside of the globe by passing the arm of the person cleaning the same over the top of the charred and greasy wick of the lamp, thereby soiling the clothing and otherwise incommoding the person so engaged.

To remedy both of these defects I attach a spring-hook to one side of the oil-pot and a staple to fit into the said hook to one side of the bottom band of the fenders. This hook e is clearly shown in Fig. 1, and is open on the inside toward the side of the oil-pot sufficiently to receive the staple e' , which fits snugly therein, and is retained there by the said hook springing it up tightly to the side of the oil-pot. When these parts are together the top parts of the lantern may be opened without displacing the staple from the hook for the purpose of lighting the lamp, and then closed up again, even in the dark, without difficulty.

The other side of the lantern, the parts are retained together, as formerly, by the use of a spring-catch, e^2 , and pin e^3 .

When it is desired to remove the top parts of the lantern from the oil-pot, all that it will be necessary for the person operating it to do will be to detach the spring and pin e^2 e^3 and open the lantern; then push the top part a little to one side and the staple e' out of its hook e , when the two parts will be entirely disengaged, and the inside of the globe can be cleaned without the disagreeable consequences above alluded to, after which the two parts may be reunited very quickly, as before.

In order to make a cheap and durable connection between the globe and the top of the lantern, I have constructed a flange, b , around the cylindrical portion of the globe, where it fits into the band D, thus forming a groove, b' , around the said cylindrical part. Through the said flange there is a small channel cut, or rather pressed, in the glass, through which the lug b^2 (which is attached to the inside of the band D) may be entered into the groove b' .

The globe will then be turned a short distance around, when the said lug will rest on the bottom side of the flange *b*, and thus retain the two parts together.. They may be disengaged as readily as they are coupled.

Although this invention has been described as belonging to lanterns, it is not less useful in all cases where lamps are to be used, and is particularly adaptable to such lamps as are used in street and railway cars, steamboats, factories, and such other like places.

Having thus described my invention, what I claim is—

1. Inclosing the wick-elevating rod or shaft a^3 with a tubing or casing, a^2 , for the purpose of conducting any moisture or fluid that may escape on the said rod outside of the guard of the lamp or lantern.

2. The cap *F*, either with or without the ventilators, substantially as described.

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Witnesses:

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