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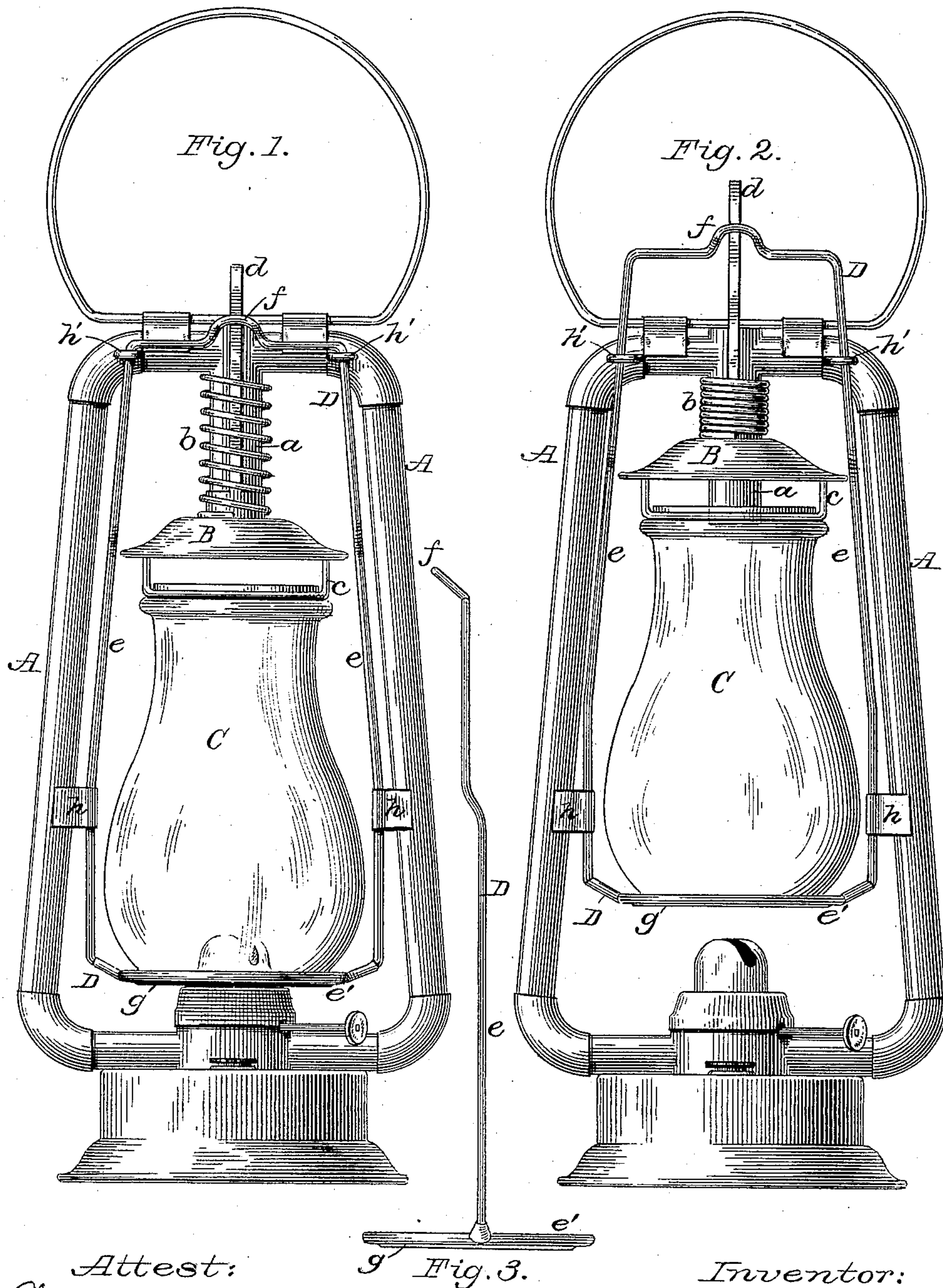
4 Sheets—Sheet 1.

M. McROBERTS.

LANTERN.

No. 321,993.

Patented July 14, 1885.



Attest:
Philip F. Larnner,
Howell Bartle

Inventor:
Mortimer McRoberts,
By Wm. C. Wood
Attorney.

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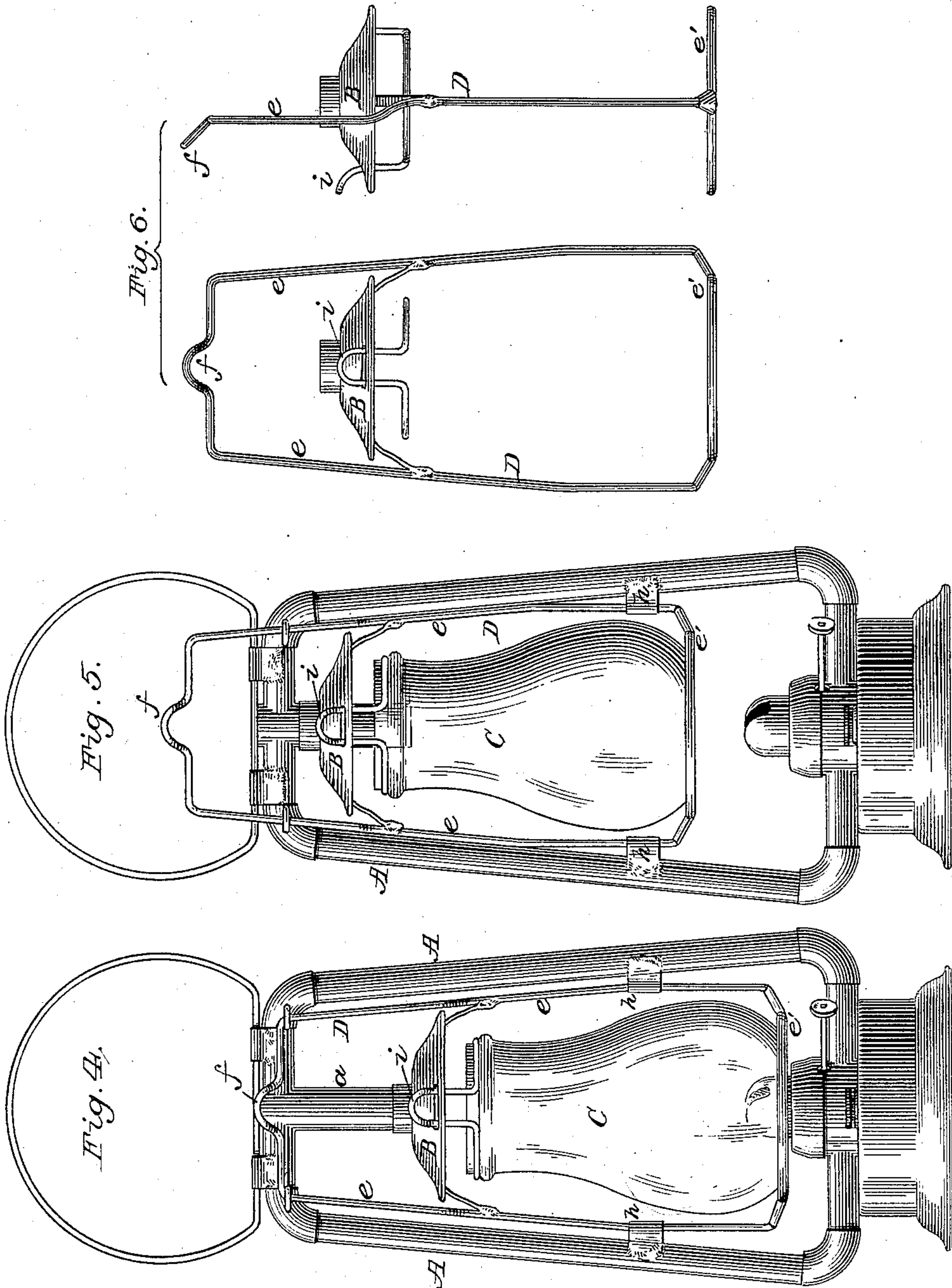
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Howell Bartlett

Inventor:
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Attorney.

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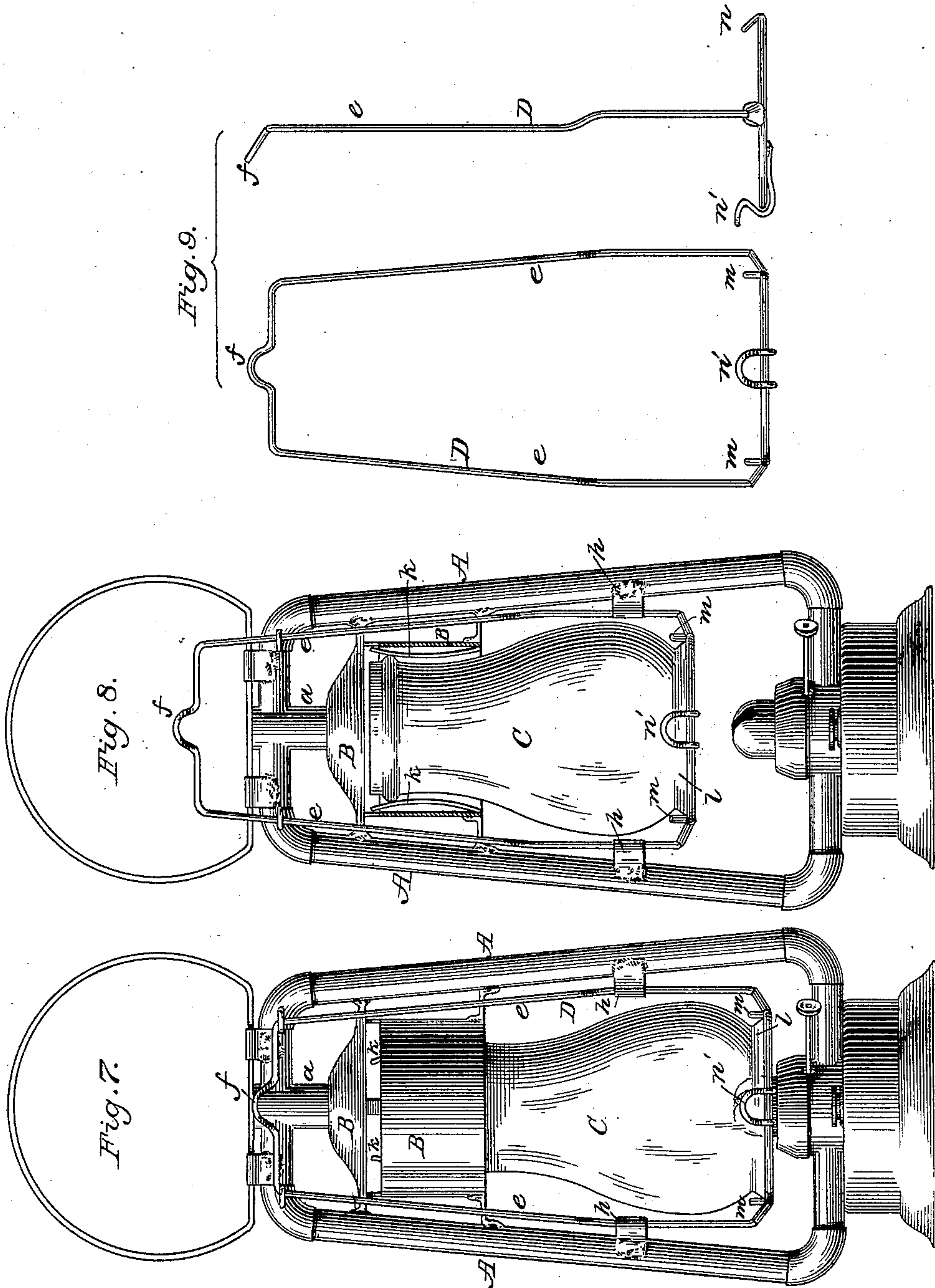
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Inventor:
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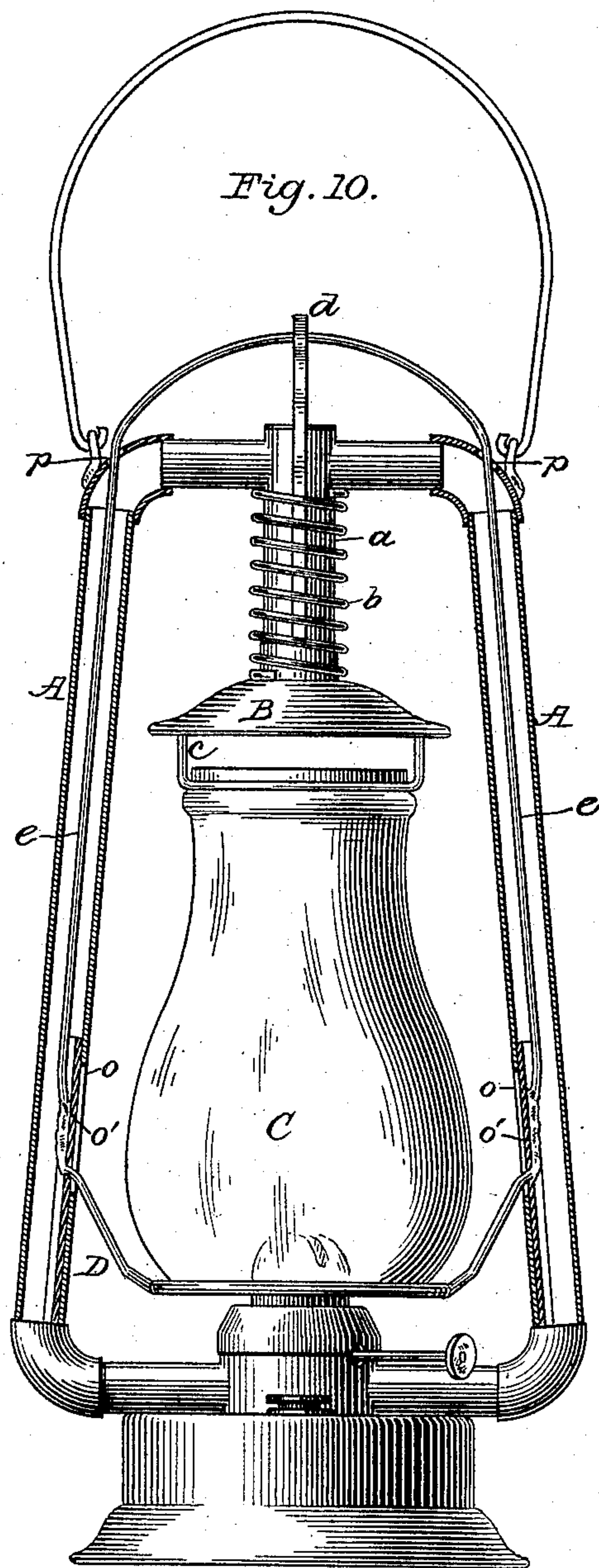
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M. McROBERTS.
LANTERN.

No. 321,993.

Patented July 14, 1885.



Attest:

Philip F. Larned
Notary Public

Inventor:

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UNITED STATES PATENT OFFICE.

MORTIMER McROBERTS, OF CHICAGO, ILLINOIS.

LANTERN.

SPECIFICATION forming part of Letters Patent No. 321,993, dated July 14, 1885.

Application filed May 15, 1885. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER McROBERTS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Lanterns; and I do hereby declare that the following specification, taken in connection with the drawings furnished, and forming a part of the same, is a clear, true, and complete description of my invention.

10 Mysaid improvements are specially applicable to what are known as "tubular lanterns." A lantern embodying my invention in its best form has a sliding globe-cap and a globe-frame
15 sliding on the main frame, but wholly disconnected from said cap, and so organized that when the globe is in its proper position on its frame the cap may be independently raised for releasing the globe from either side of the lantern, and, also, so that the globe and its
20 cap may be simultaneously lifted by means of the globe-frame for trimming and lighting the lamp. For affording similar access to the lamp many lanterns have heretofore been provided with a sliding frame embodying the
25 globe-cap and supporting the globe at its base; and therefore as the cap cannot be lifted from the globe a locking-spring is relied upon for controlling the top of the globe, but which will allow the latter to be removed from one
30 side only, whereas with the sliding cap, as is well known, the globe can be removed from either side of the lantern. Other lanterns have had the main frame composed of an upper and lower section telescoped together in
35 various ways, so that by elongating said frame the globe and lamp will be separated. In its best form my lantern has its globe-frame coupled to the usual perforated base-plate, so that when lifted the usual burner-cone can be
40 readily detached when desired, as with prior globe-frames which also include the cone-cap as a part thereof, and as in some prior lanterns the burner-cone may also be attached to or lifted by the base-plate without departure
45 from my invention; and it is equally true of such perforated base-plates as are hinged upon the bottom of the globe-frame.

One object of my invention is to obtain the well-known advantages of a sliding cap as a
50 globe-clamping device, coupled with the convenient access to the lamp afforded by the lifting of the globe without disturbing its re-

lations to its cap. In lanterns having the globe-cap united to the globe-frame a central rod attached to the globe-cap and extending
55 upward through the cap-flue has usually been employed, and this is liable to get unsoldered or broken; and in other cases a looped finger-piece has been soldered to the upper side of the cap, so that in lifting the globe-frame by
60 the cap the latter and its soldered connections are subjected to destructive strains, while, without departure from the main feature of my invention, the lifting-wires of my globe-frame may be housed within the sides of the
65 tubular main frame. It is less expensive and generally more desirable that said globe-frame be wholly outside of the main frame; but in either case the globe-frame at its top is provided with a finger-piece, or is so formed as
70 to be readily grasped, so that the lifting strain on said frame is directly applied at the base of the globe, and therefore as it rises said frame lifts the globe, and also the globe-cap, if that be capable of sliding, thus securing a true
75 right-line movement without exposing the cap or the tube on which it slides to weakening strains. This feature of a globe-frame having side wires extending upward from the base of the globe to the top of the main frame, and
80 there so constructed as to be conveniently grasped for lifting, is novel, whether said frame be employed with a sliding globe-cap which is wholly detached from said frame or one which is attached thereto, or one which is
85 incapable of any movement.

To more fully describe my invention, I will refer to the accompanying drawings, and after a description of the lanterns therein illustrated, the features deemed novel will be specified in
90 the several claims hereunto annexed.

Figure 1 illustrates in side view a tubular lantern embodying all of my improvements in what I deem their best form, the parts being
95 in position for service. Fig. 2 is a similar view of the same with the globe lifted as for lighting. Fig. 3 is an edge view of the globe-frame detached. Figs. 4, 5, and 6 in similar views illustrate a lantern embodying my slid-
100 ing globe-frame, having a globe-cap united thereto, and therefore the latter has no capacity for sliding independently of the globe-frame. Figs. 7, 8, and 9 in similar views illustrate a lantern embodying my globe-frame and

a globe-cap, which is neither united to said frame nor capable of sliding. Fig. 10 in vertical central section illustrates a lantern in which the side wires of the globe-frame are housed within the tubular sides of the main frame.

I will first describe the lantern shown in Figs. 1, 2, and 3, wherein the tubular main frame A and the lamp are as heretofore.

The globe-cap B, as heretofore, is fitted to slide on a vertical tube, *a*, which is a rigid pendent portion of the main frame and is surrounded by an expansive spiral spring, *b*, which forces the cap downward and normally maintains its wire ring *c* in contact with the top of a globe, C, when in position for service. A strip of wire or flat metal is secured to opposite sides of the cap and extends above and across the top of the main frame, as heretofore, and is thus formed into a thumb-piece, *d*, for conveniently lifting the cap-ring from the globe, as when removed for cleansing.

The globe-frame D, constructed as here shown, is a novel feature. However it may be formed at its base to afford a globe-seat or support for the globe, it has, essentially, the side wires, *e*, which extend from its base or globe-seat upward along the inclined sides of the main frame to the top thereof, and thence toward the center, where the thumb-piece *f* is formed. When considered with reference to economy, durability, and strength, this entire frame can be constructed of a single piece of wire, each end being bent into semicircular form at the base, as at *e'*, and with such additional bends as will provide for inclined sides, the horizontal top, and the thumb-piece. The ring-base thus formed may serve as the seat for the globe and bear upon the usual perforated base-plate *g* for holding the latter upon the lamp; but in its best form said base or globe-plate is incorporated with the frame D, either by being soldered upon the ring-shaped wire base, before referred to, or otherwise attached to the two ends of the side wire.

The main frame, as usual, has inclined sides, and the outline of the globe-frame conforms thereto. The side wires are provided with guides *h* on the inner sides of the main frame at proper distance above the lamp, and guides *h'* on the horizontal portion of the main frame at or near its top and at one side thereof, so that as the globe-frame is lifted said guides frictionally engage with said side wires and serve to maintain the frame in its raised position, when desired.

The side wires of frames as heretofore constructed have had a single guide at each side of the main frame; but they were so far incapable of holding the frame in its raised position as to require the use of some kind of stops or catches; but my guides *h* and *h'* are widely separated, and each has a frictional hold on the wire opposite to that of its mate, and my four friction-guides are not only sufficient to keep the globe firmly down in its place, but also to keep it elevated, although

catches or stops may be employed, if desired, as auxiliary holding devices without departure from my invention. In this connection it may be observed that the top of the globe-frame occupies a slightly different vertical plane from that occupied by the lower portions of the side wires, and hence there is a slight bend or offset near the edge of the globe-cap, which enables the sides of said frame when lifted to be torsionally strained or twisted in the upper guides, *h'*, thus enabling the latter to more firmly engage therewith frictionally than would be otherwise possible. It will be seen that with this globe-frame the tubular main frame is not pierced or at any point occupied by portions of the globe-frame, and that no strains are borne by the cap or by the tubular neck *a* during the act of lifting, and that instead of having a globe-base and globe practically suspended, as heretofore, from the globe-cap, my globe and cap are mounted upon my globe-frame and are lifted by means of a thumb-piece which is directly connected with the base of the sliding frame. This feature of extending the side wires, *e*, of a globe-frame to the outside of the main frame at its top so as to apply the lifting force beneath the globe, as hereinbefore indicated, is applicable to a lantern in which the globe-cap has no movement independently of the globe-frame. In other words, instead of suspending the globe-base from the cap and then having a lifting-wire or thumb-piece attached to the cap, so that lifting strains must be borne by said cap, and the tube *a* also subjected to more or less lateral strains, my lifting-wires extend directly from the globe base to or near the top of the main frame, and therefore, although the cap may be attached to said lifting-wires, no strains whatever are borne by said cap, nor can the tube *a* be strained laterally, because the globe-frame is limited to an exact right-line movement by the two guides *h* and *h'* for each lifting-wire—as, for instance, I show in Figs. 4, 5, and 6 my globe-frame in combination with a cap and a base-plate incapable of independent movement. In this case the globe-frame D is precisely as before described; but the globe-cap B is soldered or otherwise secured thereto, and therefore it has no spring for forcing said cap downward on the tube *a* of the main frame.

For enabling the globe to be properly held at its top, the ordinary annular spring and thumb-piece *i* is employed, which, as is well known, will admit of the removal or insertion of a globe at but one side of the lantern, instead of from both sides, as when the independently-sliding cap is used.

For still further illustrating the value of the main portion of my invention, I will next describe my globe-frame, in combination with a globe-cap, which is a fixture on the main frame and has no sliding movement whatever—as, for instance, as illustrated in Figs. 7, 8, and 9. In this lantern the cap is somewhat different in form from those previously

described, in that its bell-mouth is longer and has three or four interior springs, *k*, annularly arranged, either curved or straight, but so inclined inwardly as to enable them to well engage with the top of the globe C, which may be straight at its top, or it may be slightly flaring, so that it will be engaged by said springs, but be free to rise and fall. The bottom of the globe is flaring, having a lip, *l*, as is common with ordinary lamp-chimneys.

The globe-frame D in this lantern differs from those before described only in being provided at the globe-seat or base-plate with oppositely-located vertical lugs *m*, and an inwardly-projecting lug, *n*, and a spring-lug, *n'*, opposite thereto and co-operating therewith in a manner common to well-known lamp-chimney holders. The several lugs serve to confine the globe against lateral movement, and the lugs *n* and *n'* also prevent the upward movement of the globe independently of the base-plate, and therefore the globe and its frame are well locked together during their upward and downward movements, the globe being always reliably held at its top against lateral displacement, although its cap-springs *k* permit it to be freely raised and lowered.

In each of the lanterns shown all of the lifting strains are directly borne by the globe-frame, to the top of which the lifting force is applied, thus relieving the parts of the lantern which intervene between the globe and the top of the main frame from all lifting strains, as distinguished from applying lifting force to a loop or a wire attached to a globe-cap, on which the globe-frame is suspended as heretofore, and the novelty of the main portion of my invention should be fully appreciated when it is seen how it may be applied, not only to lanterns which have a sliding globe-cap, but also to such as have a cap incapable of sliding movement.

Although I prefer not to obstruct the interior of the tubular sides of the main frame, the side wires of my globe-frame may be housed within the main frame in such lanterns as will warrant the extra cost involved—as, for instance, as illustrated in Fig. 10. In this lantern the tubular sides of the main frame at their inner sides near the bottom are vertically slotted, as at *o*, and in the elbows at the top there are holes, as at *p*. The side wires, *e*, occupy said slots and holes and project through them. At each slot there is a concavo-convex sliding plate, *o'*, which is soldered to its side wire and completely covers and closes its slot when the globe-frame is in its lowest position. The lower portion of the globe-frame should in this case be made separately and soldered or otherwise secured to the lower ends of the side wires after their insertion in the tubes.

These slots and holes in the main frame will serve as guides for the side wires, and by suitable bends in the latter at their lower ends within the tubes any desirable degree of friction can be obtained. At the upper end of the globe-frame the two wires above the main frame are as before described; or they may be bent in the form of an inclined bow, as shown, so as to be convenient for grasping and clear of the handle of the lantern.

Other variations in the application of the main feature of my invention could be illustrated; but they are deemed unnecessary, because they will, from a knowledge of the disclosures thus made by me, be readily suggested to persons skilled in lantern-making.

Of the several forms of lantern shown, I prefer the one first described, although some of the others can be constructed at somewhat less cost.

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

1. In a lantern, the combination, substantially as hereinbefore described, of the main frame and a sliding globe-frame having a globe-seat, and side wires extending from the base of the globe to the top of the main frame, and there provided with a thumb-piece, whereby, in lifting the globe, as for trimming and lighting, the portions of the lantern intervening between the bottom of the globe and the top of the main frame are wholly freed from lifting strains.

2. The combination, with the main frame and a globe-cap which controls the top of a globe but permits its vertical movement, of a sliding globe-frame provided with a globe-seat and extending from the lamp to the top of the main frame and separated from portions of the lantern intervening between the globe and the top of said main frame, substantially as described.

3. The combination of the main frame, the sliding globe-cap, and the sliding globe-frame having a globe-seat and extending from the base of the globe to the top of the main frame and independently of the cap, substantially as described.

4. The combination of the main frame having inclined sides, and the sliding globe-frame having a globe-seat and correspondingly-inclined side wires extending from the base of the globe to the top of the frame, and friction-guides on the main frame at or near its top and at its sides near the bottom, substantially as described.

MORTIMER McROBERTS.

Witnesses:

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J. C. CAMERON.