

(No Model.)

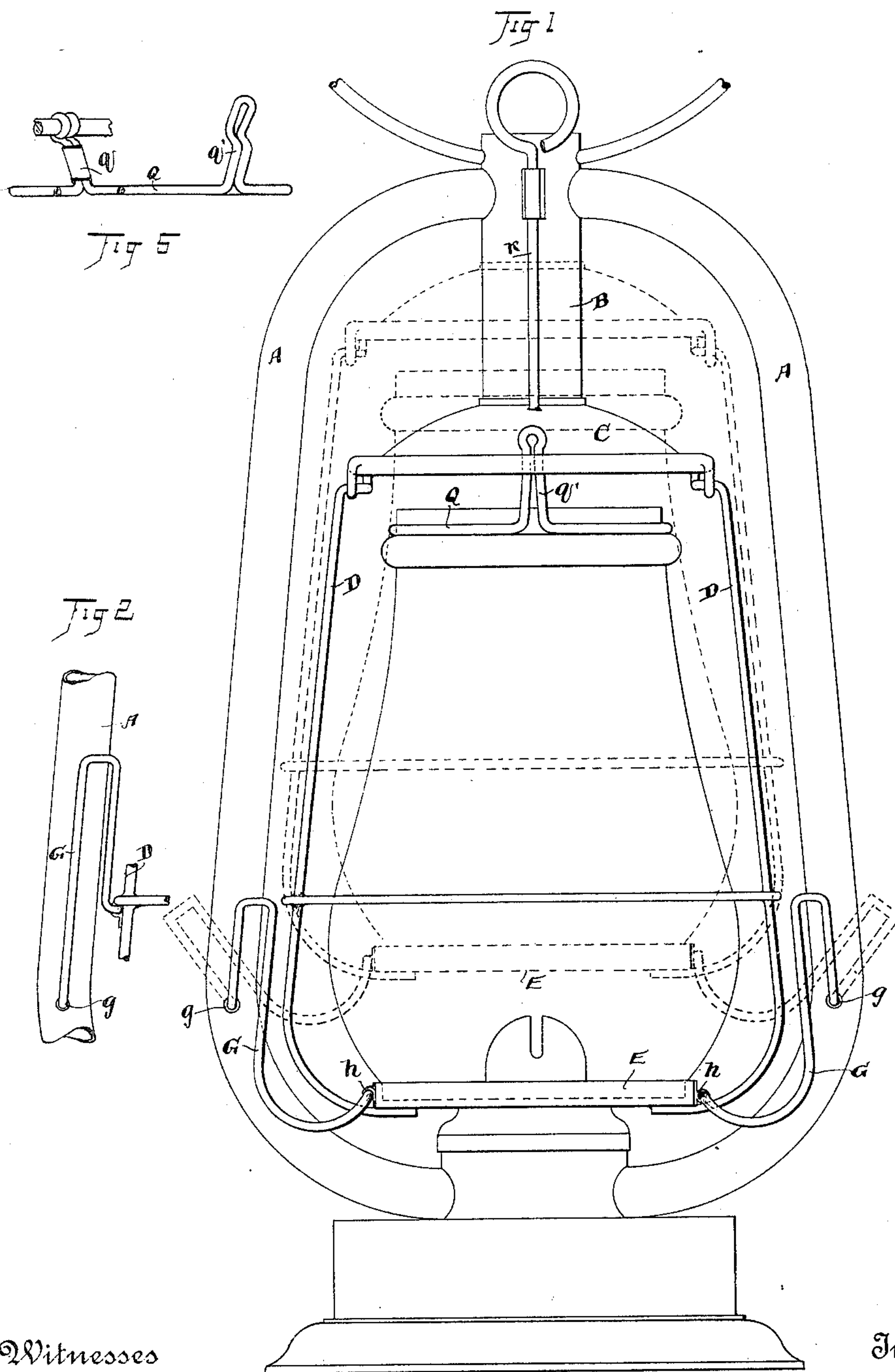
2 Sheets—Sheet 1.

W. C. WINFIELD & J. F. McNUTT.

LANTERN.

No. 433,313.

Patented July 29, 1890.



Witnesses

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R. B. Moser.

Inventors

W. C. Winfield,
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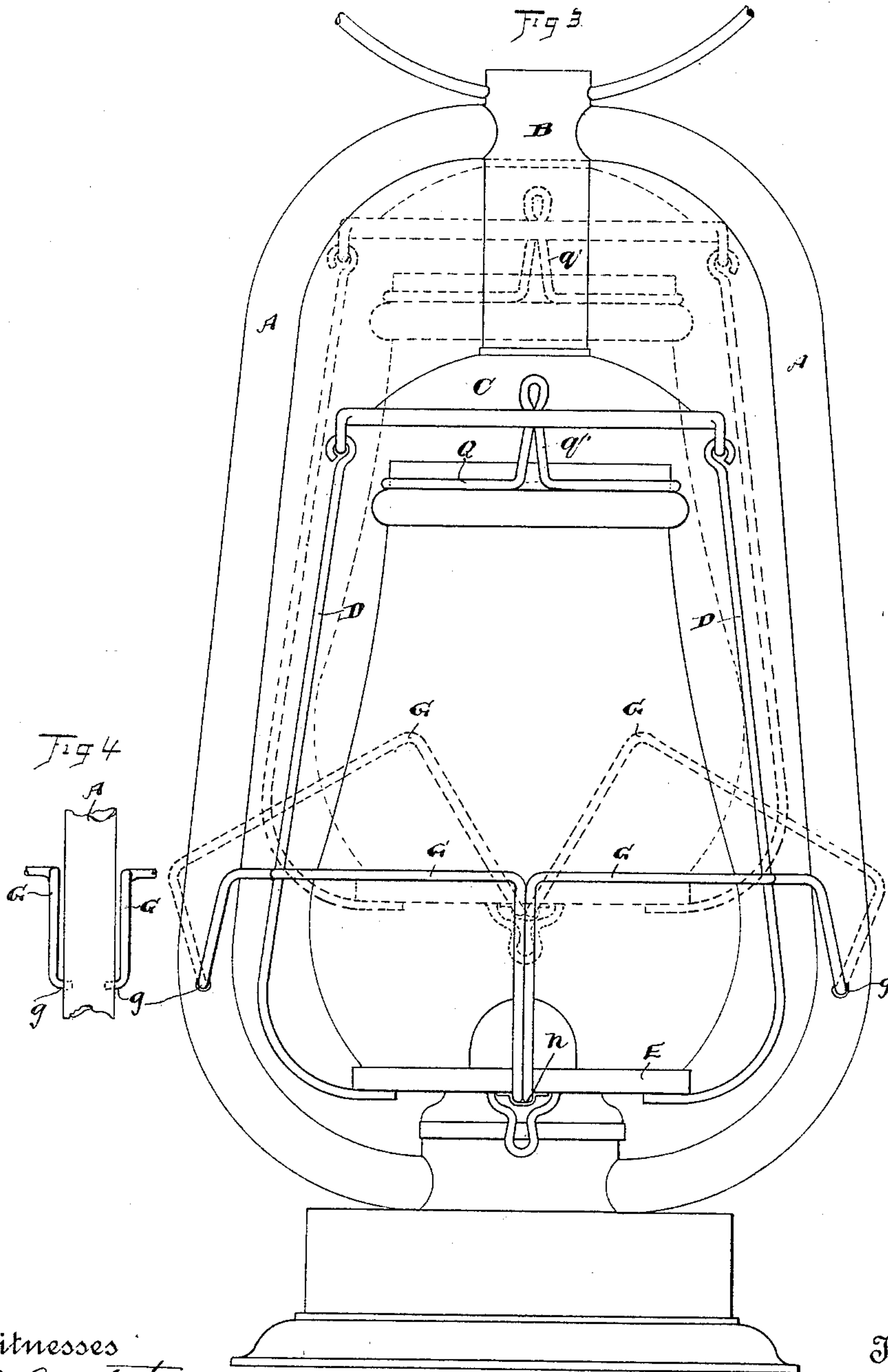
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UNITED STATES PATENT OFFICE.

WILLIAM C. WINFIELD AND JOHN F. McNUTT, OF WARREN, OHIO, ASSIGN-
ORS TO THE WINFIELD MANUFACTURING COMPANY, OF SAME PLACE.

LANTERN.

SPECIFICATION forming part of Letters Patent No. 433,313, dated July 29, 1890.

Application filed February 15, 1890. Serial No. 340,591. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM C. WINFIELD and JOHN F. McNUTT, citizens of the United States, residing at Warren, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Lant-
5 terns; and we do hereby declare that the follow-
ing is a full, clear, and exact description of the invention, which will enable others skilled
10 in the art to which it appertains to make and use the same.

Our invention relates to improvements in lanterns; and the object of the invention is to
15 provide a lantern with a mechanism whereby
the globe may be raised and lowered with re-
spect to the burner as occasion requires, and
operated and held substantially as shown and
described, and particularly pointed out in the
claims.

20 The nature or principle of the invention is
such that it may be represented in a great
variety of different forms covering a consid-
erable range of modifications and mechanical
equivalents; but for the purposes of this ap-
25 plication the forms shown in the accompany-
ing drawings are thought to be a sufficient
illustration of the invention.

Thus in Figure 1 there is a plain elevation
of a lantern, in which the full lines show the
30 globe down in working position and the dotted
lines show the globe raised as when the lan-
tern is to be lighted, the wick trimmed, or
the like, the difference in the two positions
in a full-sized lantern being in the neighbor-
35 hood of two inches, so that abundant room
for these purposes is afforded. In this fig-
ure there are two spring-arms connected with
the globe-rest and the side tubes, respect-
ively, to effect the desired result, and pivoted
40 on both. Fig. 2 is a modification of this form
only so far as location of the arms is concerned,
the lower ends of said arms being pivoted on
the guard instead of the globe-rest, and for
this purpose are brought to a correspondingly-
45 higher elevation. It will be understood that
the guard is firmly connected with the globe-
rest in any suitable way. Fig. 3 is a plain
elevation of a lantern, illustrating still an-
other form of operating mechanism. In this
50 instance the spring-arms constitute the guard,

and the line of separation or pivot on the
globe-rest is intermediate of the side tubes.
Fig. 4 is a side elevation of a section of one
of the side tubes, showing portions of the
spring-arms that extend from sides opposite
55 thereof, the same being alike on both sides
of the globe, but not seen in Fig. 3, except on
one side. Fig. 5 is a detail view of the ring
for holding the top of the globe.

According to all these several views the globe
60 has a vertical movement on straight or prac-
tically straight lines from one position to the
other in its movements up and down, going
directly up from its seat to the position shown
in dotted lines and as directly down to work-
65 ing position shown in full lines. It is like-
wise held by the same agencies in both posi-
tions, so that no other means than those shown
and herein described are required to keep the
globe up when it is raised or to keep it down
70 when lowered. However, by changing the
pivot-points at the tubes the arms may be
employed to hold the globe-rest in a raised
position only, or in a lowered position, as may
be desired, and depend on other means for
75 retaining it in the opposite positions.

It may also be stated that in all the views
the following parts occur in common and form
no part of this invention, except as elements
in novel combinations, viz: the side tubes A,
80 the central draft-tube B, the sliding canopy
C, and the side rods D, connecting the canopy
and the globe-rest E.

Referring to Fig. 1, G represents spring-
arms, so bent or formed that while one end is
85 pivoted at *g* in or on the air-tube A and the
other end at *h* on the globe-rest there will be
sufficient intermediate material in the arms
to cause the arms to operate as contemplated.
This operation involves three features—viz.,
90 first, holding the globe-rest down on its seat,
so that in the use of the lantern it will not be
unseated or displaced, and in case the globe
should become broken the burner remains
locked in the lantern; secondly, moving the
95 globe-rest and the parts moving with it within
certain definite and fixed lines up and down,
so that the globe-rest will always be automati-
cally seated when lowered to working position,
and, thirdly, holding the globe in a raised po-
100

sition for the purpose of trimming and lighting, so that no other means than said arms or their equivalent shall be required to perform this office.

5 In the construction shown in Fig. 1 the arms G are bent back upon themselves at one end somewhat in U form, so as to bring the bend above the pivot-point on the air-tube, while the lower end is curved slightly below the
10 pivot-point *h* a portion of its length, and the pivot *h* is some distance below the pivot *g*. Thus it occurs when the globe is raised and the pivot *h* passes up, say, an equal distance above the horizontal plane of pivot *g*, that as
15 the said pivot *h* reaches the dead-center point opposite pivot *g* and said pivots are thus brought more nearly together a certain amount of tension is momentarily thrown into the said arms G, and hence the said arms, exerting a spring-pressure, help to lift the globe-
20 rest past the dead-center point and hold it in a raised position. The same action occurs when the globe is lowered to its working position, and the globe-rest is thus held securely
25 on its seat on the cone or cap of the burner. It will be understood, however, that the form of arms shown in Fig. 1 is only one of many different forms that might be adopted. In this instance the said arms are pivoted through
30 the side tubes and have wide bearings in the pivot *h*, so that the two arms will serve the purposes above named, and these arms may be single or double, as desired. Of course the pivoting in this instance and the others
35 could be on the outside of the side tubes or on some other suitable support and be within the spirit of the invention.

The horizontal guard-wire in Fig. 1 is connected with the side wires between the globe-
40 pan and canopy, or may be connected with the side tubes, and a looped stem *k* preferably is fixed on the canopy by the side of the central draft-tube for lifting and lowering the globe and the associated parts; but the lifting may be done by upward pressure on the
45 globe-rest.

In Fig. 2 the construction of the arms is slightly different to adapt them to their position, but the effect or operation is the same.
50 In this instance the said arms are moved up so that they pivot on the guard instead of the globe-rest, and the U portion, extending above the pivot on the side tubes, is lengthened, while the lower portion reaching in to the
55 guard is necessarily shortened. Otherwise the construction and operation are the same as in Fig. 1. At the top the globe is held in position by a wire ring Q, encircling the top of the globe, and having an arm *q*, which is
60 pivotally attached to the edge of the canopy. Hitherto holders of this nature have been made with spring-shanks, and hence were rigid in their connections, and in removing the globe had to be lifted by the thumb and
65 held in a raised position until the globe was free from the lantern. To accomplish this

when the globe and holder are in a heated condition is very annoying and unsatisfactory to the operator. I find that a pivoted holder operates more easily and is altogether more
70 desirable than other styles. At the front the ring has a spring-catch *q'*, adapted to engage the canopy and to hold the globe firmly down in position.

In Fig. 3 we have a modification of construction closely resembling that shown in
75 Fig. 1, with the duplication of the arms G on the respective sides, and the arms in this instance forming the globe-guard. The said arms on each side extend half-way the distance from one tube to the other, and the
80 pivot-points *g* and *h*, respectively, are at the same elevation, as shown in Fig. 1. Both ends of the arms are bent downward at right angles to the horizontal guard portion, so as to
85 make the necessary pivot-connections, and the same action occurs, as before described, in the movements above and below the dead-center. The bends in the arms at their outer
90 ends follow the lines of and may have a bearing against the tubes, thus forming a strong and rigid back against a blow or pressure on the guard. The position of the parts when the globe is raised is clearly seen in dotted
95 lines. This construction may also be employed to serve as a guard for the globe only by removing the tension from the spring-arms and employing other well-known means for raising and lowering the globe and retaining it in its raised and lowered position.
100

In all these forms there is sufficient space about the guard to allow the globe to be removed or replaced by simply raising the wire loop which holds it down and taking the globe
105 out at the side by first swinging the top outward and then removing it. The globe is replaced by a reverse movement. Of course the mechanism herein described for raising and lowering the globe will operate just the same whether the globe is in or out of the
110 lantern, so that the globe does not form a necessary part of the structure, and side wires connecting the globe-rest and canopy may be dispensed with by using other well-known means for retaining the globe in its position.
115

It will be observed that the canopy, the globe-rest, and the connecting-rods together form a frame-work for the globe which is movable as a unit up and down within the
120 side tubes and general frame of the lantern, the arms in all cases serving as a means of raising and lowering this frame, as hereinbefore described.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—
125

1. In a lantern, a globe-rest having oppositely-arranged arms pivoted on fixed supports and at the globe-rest and constructed to form the guard for the globe, substantially as
130 described.

2. In a lantern, a globe and a globe-rest

adapted to be moved up and down in substantially direct lines, and spring-arms pivoted on fixed supports and to the globe-rest, said arms arranged to form a guard for the
5 globe and to operate the globe-rest, substantially as described.

3. In a tubular lantern, a globe-rest adapted to be raised and lowered with respect to its seat, and pairs of guard-arms pivotally connected with said rest substantially midway
10 between the side tubes and to fixed supports at their outer end, substantially as described.

4. A tubular lantern and a vertically-movable globe-rest, in combination with guard-
15 arms pivoted at one end on the side tubes and

at their other end on the globe-rest, substantially as described.

5. The lantern-frame, the globe, and the globe-rest, in combination with spring-arms
20 pivoted on the globe-rest and having their opposite ends pivoted on fixed supports on a different plane from the said rest and adapted to serve as a guard for the globe, substantially as described.

Witness our hands to the foregoing specification this 8th day of February, 1890.

WILLIAM C. WINFIELD.

JOHN F. McNUTT.

Witnesses:

J. H. EWALT,

H. Q. STILES.

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