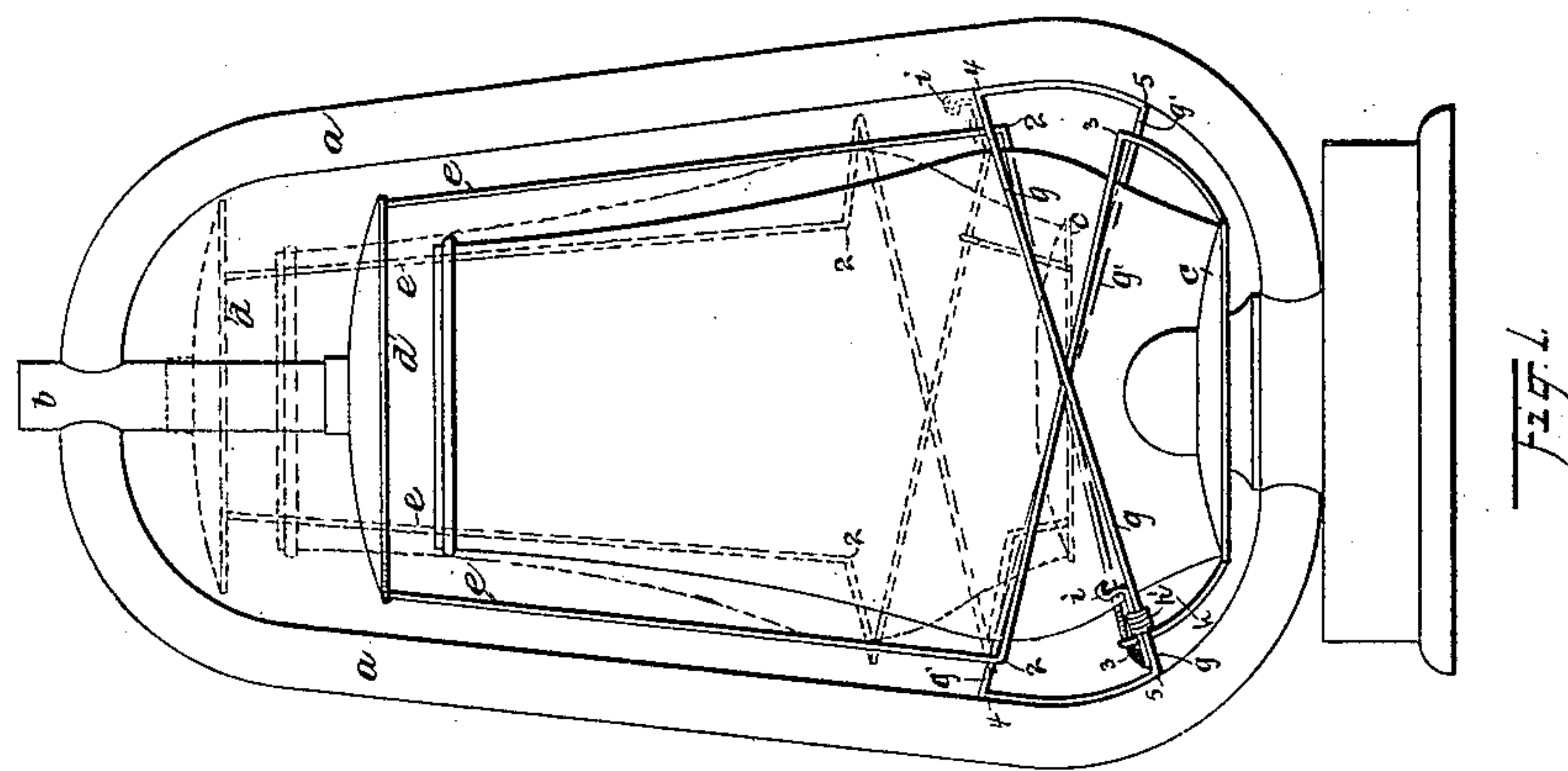
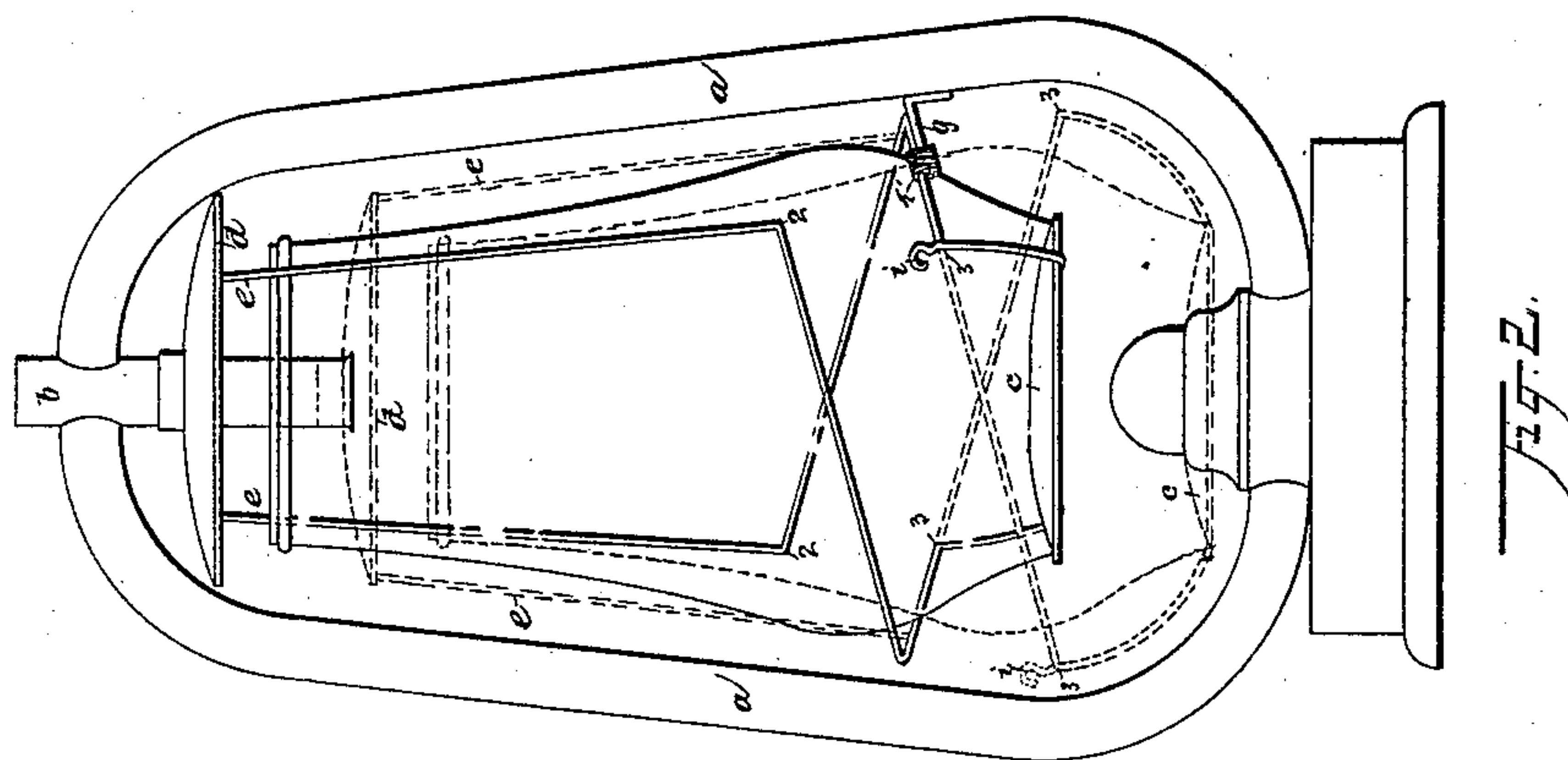


(No Model.)

W. C. WINFIELD.
TUBULAR LANTERN.

No. 441,529.

Patented Nov. 25, 1890.



WITNESSES,

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TUBULAR LANTERN.

SPECIFICATION forming part of Letters Patent No. 441,529, dated November 25, 1890.

Application filed February 7, 1889. Serial No. 299,086. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. WINFIELD, a citizen of the United States, residing at Warren, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Tubular Lanterns; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to 10 which it appertains to make and use the same.

My invention appertains to tubular lanterns; and it consists in the construction and arrangement of the guard, and in the means connected therewith for raising the globe for 15 convenience in lighting, as well as in other special features, all as more fully hereinafter described, and especially pointed out in the claims.

In the accompanying drawings, Figure 1 is a plain elevation of a lantern embodying my improvements, the position of the parts when the globe is raised being shown in dotted lines. Fig. 2 is a similar view of a lantern in which some of the parts of the improvement 25 are modified, and the globe is shown in full lines as raised and in dotted lines as down.

Other views illustrating still further modification of details might be given; but the views shown it is thought are sufficient to 30 disclose the nature and scope of the invention.

The lantern itself outside of my improvements may for the purpose of this description be regarded as a tubular lantern of common and well-known form having the usual 35 side tubes *a* and central tube *b* above the globe.

One of the objects of my invention is to avoid the necessity of removing the globe when the lantern is to be lighted, or, to express it more directly, to raise the globe bodily up without removing it from the lantern to enable the lighting to be readily done, and then quickly and easily restoring it to its normal position. I am aware that this is not, 45 broadly, new in the art, and that various means have been devised to accomplish the same result; but I am not aware that any one has ever before employed the means or operated on the principle characteristic of this 50 invention.

It will be observed, primarily, that the amount of wire employed by me is not in excess of that used when the guard is brought inside the tubes *a*, and the globe pan or holder *c* is rigidly connected with the deflector *d* by 55 wires in line with the tubes *a* at either side. In that case the side wires serve simply to connect globe-pan and deflector, and the guard is a mere guard, and neither has any other function or use. By my invention these 60 parts are made to serve new and additional functions, as will now be explained.

In both the figures of the drawings *e* represents a combined connecting and guard wire, two being used in each construction. These 65 wires are attached to the deflector at opposite sides and extending downward in substantially straight lines are bent at nearly right angles, as seen at 2, whence they run spirally across the bulge of the globe to 3, where they 70 are again bent at nearly right angles and have their ends fastened to the globe-pan. This brings the respective ends of the wires to opposite sides of the globe, and the said wires are bent in opposite directions at 2, so that while 75 one passes spirally around the globe on one side the other passes in like manner around the globe upon the other side. When the globe is down, the extremities of these wires above and below the spiral portion, respectively, are 80 in vertical alignment with the side tubes *a*. Thus these wires serve to connect the globe-pan and the deflector the same as would wires that run directly from one to the other, as heretofore, with the advantage in this case, however, 85 of said wires having sufficient spring to enable globes differing somewhat in length to be readily supported between them. It frequently occurs that one globe is found to be a quarter of an inch or more longer than another 90 in the same lot, and this works decided inconvenience when the connections between the deflector and the globe-pan are practically inflexible and adapted only to a certain length of globe. It will also be seen that 95 in addition to supplying the necessary connection between the deflector and globe-pan to support the ends of the globe these wires serve as guards upon the more exposed portions of the globe. The necessary connection 100

between the globe-pan and the deflector being thus provided, and the deflector being constructed to slide freely up and down on the central tube *b* through a central perfora-
 5 tion provided for this purpose, the globe which is supported at its ends, as described, is movable vertically without taking it from its bearings. Now in order to render this vertical movement easy and convenient and uni-
 10 formly upon the same axial center, I employ a guide-wire *g*. (Shown in Fig. 1 as extending spirally from one side tube to the other and having the same curvature around the globe as the wires *e* in their spiral portion.)
 15 The wire *g* is rigidly seured to the side tubes, and, as seen at *g'*, Fig. 1, is continued around the opposite side of the globe, where it inclines in the opposite direction and completes the guard. These wires *g g'* may be in a con-
 20 tinuous piece bent at the tubes, as seen at 4 5, or separate wires soldered or otherwise attached to the tubes; or the wire *g'* may be wholly dispensed with and the wire *g* shortened to answer exclusively the purpose of a lift, as seen in
 25 Fig. 2. In any case I employ the wire *g* as a lifting-wire for the globe, and for this purpose make a sliding connection between the connecting-wire *e*, which comes near the lower extremity of said wire *g* when the globe is
 30 down. Connection may be made with either of the wires *e*, as shall seem most convenient, and the only requisite in the guide-wire is that it shall have the necessary length and pitch to raise the globe the required
 35 height and at the same time not be so steep that the parts will slide back when released by the hand. With a gradual inclination of this wire the globe can be raised to any point within the ends of the wire and left there
 40 without holding or locking. If it were made very steep, special locking might be needed, and this is not desirable. The exact manner of connecting the wire *e* with the lift-wire is not really material, as a number of ways
 45 could be suggested. I have here shown a wire *h* firmly fastened to the wire *e* and loosely wrapped on the guide *g*, with a handle *i* to operate it. This is a simple form of connection and answers every purpose.
 50 If the old connecting-wires, which run parallel with the tubes *a* from the deflector to the globe-holder, were used, the guide-wire would necessarily have to extend from one tube to the other, as in Fig. 1, or start from
 55 the tube nearest the wire when the globe is down, and rise from that point to give the desired lift to the globe; but in that case the necessary guards would have to be supplied in addition. A fairly good form is the
 60 straight old wires with the wires *g g'*, as in Fig. 1. Other changes in construction might be suggested; but they all are equivalents or obvious modifications of those shown and described.
 65 Obviously the guard portions of the connecting-wires *e*, instead of being attached to the globe-pan opposite to their point of at-

tachment to the deflector, could be extended in their bend around the globe, so as to be attached to the pan *c*, say, on the same side of
 70 the globe as that at which they start and directly or nearly beneath their connection with the deflector. This would double the guard on all sides of the globe and render the wires *g g'* unnecessary, the short guide-
 75 wire *g* (shown in Fig. 2) or its equivalent, of course, being employed to give the requisite lift to the globe. When the short wire *g* here referred to is used, it has a sleeve or loop *h'*,
 80 corresponding in function to the wire-connection *h* in Fig. 1, the said loop, sleeve, or holder of whatever form being in this case fixed on the stem *g*, and the spiral wire *e* sliding therein.

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

1. In a tubular lantern, an inclined guiding attachment fixed on a side tube, a globe-pan and a deflector, and a wire uniting said
 90 parts and connected with the said guiding attachment to slide thereon, substantially as set forth.

2. In a tubular lantern, a wire connecting the globe-pan and the deflector and a guide
 95 attached to a side tube and inclined laterally therefrom, on which the connecting-wire is adapted to slide to raise and lower the globe, substantially as set forth.

3. In a tubular lantern, a side tube having
 100 a guiding attachment fixed thereon and extending toward the opposite tube in an inclined curved line, with a wire for raising and lowering the globe, having a sliding connection with said guiding attachment, substan-
 105 tially as set forth.

4. In a tubular lantern, a guide secured to a side tube, in combination with a globe-pan and a deflector and an inclined curved wire connecting the said pan and deflector, where-
 110 by said parts are raised and lowered when turned axially, substantially as set forth.

5. In a tubular lantern, a deflector and a globe-pan connected by wires on opposite
 115 sides, the side tubes, an inclined guide between said tubes, and a sliding connection between one of the connecting-wires and said guide, substantially as set forth.

6. In a tubular lantern, a globe-pan and deflector and the side wires connecting said
 120 parts, having their upper portions made straight and their lower portions bent spirally and forming a guard for the globe, substantially as described.

7. In a tubular lantern, a guard for the
 125 globe attached at one end to the deflector and at the other to the globe-pan and bent to cross from one side of the lantern to the other in a substantially spiral line, substantially as set forth.

8. In a tubular lantern, a deflector and a globe-pan, in combination with two wires connecting said parts, each of said wires bent
 130 substantially at right angles, as at 2, and ex-

tending thence to the opposite side tube and forming a guard for the globe, substantially as set forth.

5 9. In a tubular lantern, the side tubes and the central tube, in combination with the deflector loosely sleeved on the central tube, a substantially spiral guiding attachment on a side tube, and a wire extending between the deflector and the globe-pan adapted to slide
10 on said guiding attachment, substantially as set forth.

10. In a tubular lantern, a combined connecting and guard wire extending between

the deflector and the globe-pan and crossed from one side of the lantern to the other, in 15 combination with an inclined guide-wire running in a substantially spiral line from one side tube to the other, substantially as set forth.

Witness my hand this 23d day of January, 20
A. D. 1889.

WILLIAM C. WINFIELD.

Witnesses:

H. T. FISHER,

I. T. COREY.