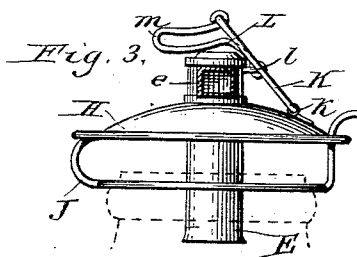
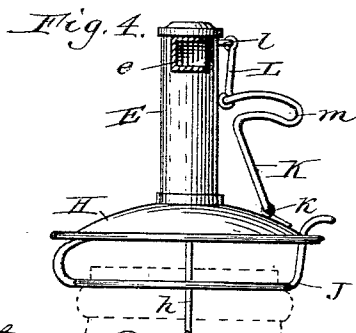
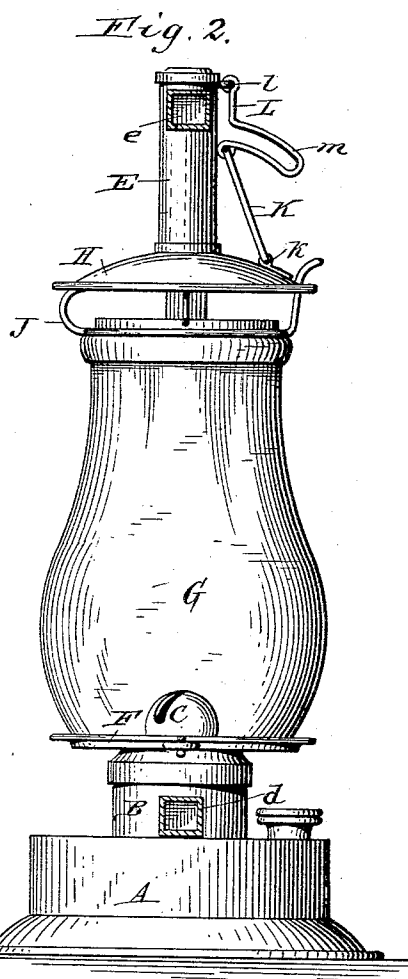
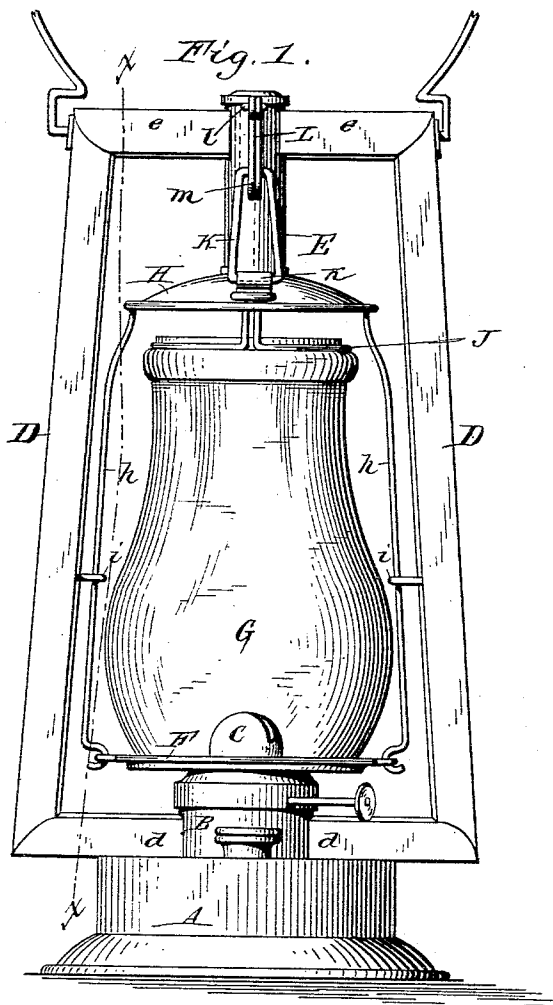


(No Model.)

W. McARTHUR.
TUBULAR LANTERN.

No. 476,478.

Patented June 7, 1892.



Theo. L. Popp.
J. T. Clough. } Witnesses.

Warren McArthur, Inventor.
By Wilhelm & Bonner,
Attorneys.

UNITED STATES PATENT OFFICE.

WARREN MCARTHUR, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE STEAM GAUGE AND LANTERN COMPANY, OF SYRACUSE, AND THE R. E. DIETZ COMPANY, OF NEW YORK, N. Y.

TUBULAR LANTERN.

SPECIFICATION forming part of Letters Patent No. 476,478, dated June 7, 1892.

Application filed November 18, 1891. Serial No. 412,271. (No model.)

To all whom it may concern:

Be it known that I, WARREN MCARTHUR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Tubular Lanterns, of which the following is a specification.

This invention relates to a tubular lantern in which the globe is mounted in a frame which can be moved vertically in the tubular lantern-frame for the purpose of exposing the burner for trimming and lighting the wick, &c.

The object of my invention is to provide a simple device whereby the globe-frame can be easily raised and lowered and held in either position.

In the accompanying drawings, Figure 1 is a front elevation of a tubular lantern provided with my improvement and showing the globe in its normal lowered position. Fig. 2 is a vertical section thereof in line *xx*, Fig. 1. Fig. 3 is a sectional elevation of the top portion of the lantern, showing the position of the parts when the globe is in a raised position. Fig. 4 is a sectional elevation of the top portion of the lantern, showing a modified form of the lifting device.

Like letters of reference refer to like parts in the several figures.

A represents the base of the lantern; B, the air-chamber; C, the burner; D, the upright portions of the air-tubes; *d d*, the lower and *ee* the upper horizontal branches thereof, and E the central depending tube, forming together the rigid tubular lantern-frame.

F represents the perforated plate, which surrounds the burner and upon which the globe G rests.

H represents the bell arranged above the globe and made vertically movable on the depending tube. The bell and globe-supporting plate are connected by upright wires *h h*, which pass through guide-loops *i i*, secured to the upright portions of the tubes. The globe is firmly held upon the supporting-plate F by a spring J, secured to the bell. The perforated plate, the bell, and the upright wires form the vertically-movable frame in which the globe is mounted. All of these parts may be of any ordinary or suitable construction.

K represents an upright link, which is pivotally secured with its lower end to the upper side of the bell by an eye *k* and extends upwardly and backwardly therefrom toward the central tube.

L represents an upright link arranged above the lower link K and pivoted with its upper end to an eye *l*, secured to the central tube near its top. This link is pivotally connected with its lower end to the upper end of the lower link. Upon swinging the upper link upwardly the globe-frame connected therewith by the lower link is raised from the burner, and upon swinging the upper link downwardly the globe-frame is lowered upon the burner. When the globe and its frame are in their normal or lowered position, the point of connection between the two links lies in the rear of a straight line drawn through the fulcrum of the two links. Any upward pressure applied to the globe-frame, therefore, presses the connected ends of the links against the central tube, whereby the links are caused to resist the upward movement of the globe-frame, thus securely holding the globe-frame in position upon the burner.

When the globe-frame is in its raised position, as represented in Fig. 3, the upper link rests upon the top of the central tube and is supported thereby, and the pivotal connection between the links lies backward of the fulcrum of the upper link, thereby preventing the latter from being swung downwardly by the weight of the globe and its frame and holding the globe-frame securely in its elevated position. By this arrangement of the links with the central tube, which operates as a stop, a perfectly-reliable locking device is formed, whereby the globe-frame is easily manipulated and securely held either in a raised or lowered position.

The links are preferably formed of wire for economy in construction, but may be stamped out of sheet metal, if desired. The upper link is preferably provided with a thumb-piece *m*, which permits it to be conveniently manipulated and which may be formed by bending a portion of the link outward, so as to form a bight, as represented in Figs. 2 and 3. If desired, the thumb-piece may be formed on the lower link, as represented in Fig. 4.

I claim as my invention—

1. The combination, with the lantern-frame and the vertically-movable bell guided upon the central tube of the lantern-frame, of an upper link pivoted with its upper end to the lantern-frame and a lower link pivotally connecting the lower end of the upper link with the bell, substantially as set forth.
2. The combination, with the lantern-frame and the vertically-movable globe-frame, of an upper link pivoted with its upper end to the lantern-frame, a lower link pivotally connecting the lower end of the upper link with the upper end of the globe-frame, and a thumb-piece formed on one of said links, substantially as set forth.
3. The combination, with the lantern-frame and the vertically-movable globe-frame, of an upper link pivoted with its upper end to the lantern-frame and resting thereon when the globe-frame is raised and a lower link pivotally connecting the upper link with the upper end of the globe-frame, whereby the globe-frame is held in a raised position, substantially as set forth.

4. The combination, with the lantern-frame and the vertically-movable globe-frame, of an upper link pivoted with its upper end to the lantern-frame and a lower link pivotally connecting the upper link with the upper end of the globe-frame, both links being arranged in front of the depending tube of the frame and resting against the same in the lower position of the globe-frame, substantially as set forth.
5. The combination, with the lantern-frame and the globe-frame capable of vertical movement on the upper portion of the lantern-frame, of an upper link pivoted with its upper end to the lantern-frame and resting thereon in its elevated position and a lower link connecting the free end of the upper link with the globe-frame and resting against the lantern-frame in the lower position of the globe-frame, substantially as set forth.

Witness my hand this 7th day of November, 1891.

WARREN MCARTHUR.

Witnesses:

E. RITCHIE,
JOS. LUDES.