

F.A. Balch
[55.]

ass'or to self and

E.T. Bond.

LANTERN.

No. 118,576.

Patented Aug. 29, 1871.

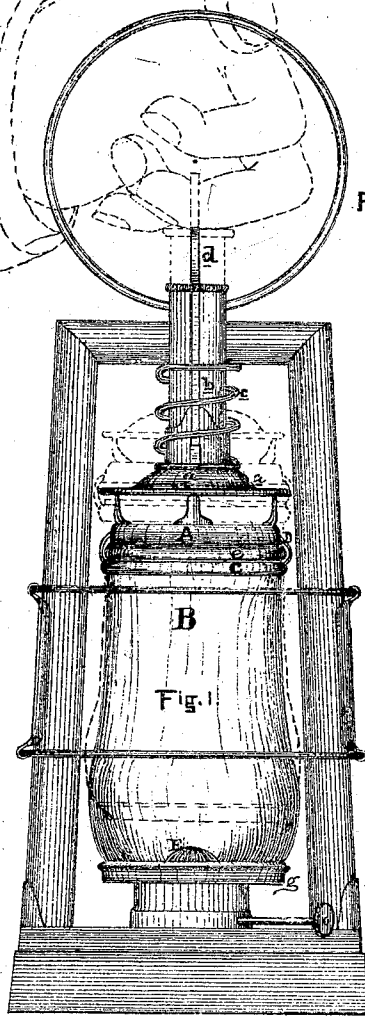


Fig. 2.

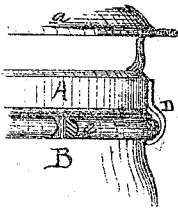


Fig. 3.

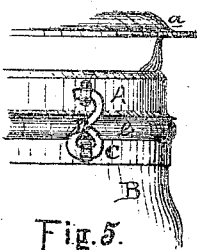


Fig. 4.

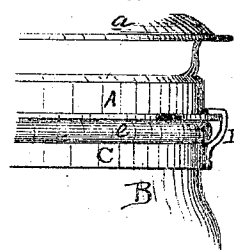


Fig. 5.

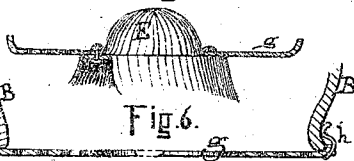


Fig. 6.

WITNESSES.

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UNITED STATES PATENT OFFICE.

FREDERIC A. BALCH, OF HINGHAM, ASSIGNOR TO HIMSELF AND E. T. BOND,
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IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. 118,576, dated August 29, 1871.

To all whom it may concern:

Be it known that I, FREDERIC A. BALCH, of Hingham, in the county of Sheboygan and State of Wisconsin, have invented a new and useful Improvement in Lanterns; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, in which—

Figure 1 is an elevation of a tubular lantern provided with my improvement. Figs. 2, 3, 4 represent different methods of operating my improvement. Figs. 5, 6 represent different ways of securing the bottom plate upon which the lantern-globe rests.

This invention relates to that class of lanterns known as tubular lanterns; and it consists principally in attaching the globe or glass of the lantern to the upper or sliding band by means of adjustable catches or similar devices not depending upon frictional contact for their action, so that when the lamp is to be lighted it will not be necessary to remove said globe, but only to raise the same by the movement that raises the upper band, and at the same time make the globe easily detachable from said band.

As tubular lanterns have heretofore been constructed the globe has only been held in place by the upper band, and has been liberated when said band was raised, so that in lighting the lamp it is necessary first to remove the globe. This requires the action of both hands and is correspondingly inconvenient.

By my invention the globe is attached to the upper band, and when said band is raised the globe is raised with it, and the lamp may then be lighted by a match held in the other hand, and without the removal of the globe at all. It may sometimes happen that the globe will fit so snugly in the upper band that it will move up and down therewith. The variation in size of the glasses will always render this mode of securing by frictional contact unreliable, and I lay no claim thereto.

The mechanical methods of attaching the globe to the band are various. They are, for convenience, required to be such that the globe may be easily detached when it is required to remove it for the purposes of cleansing or to replace it if broken.

That others may fully understand my invention, I will particularly describe it and some of the methods by which it may be employed.

Fig. 1 represents a tubular lantern with my improvement, in which A is the upper band, and B is the glass or globe. The upper band A is attached to the cap *a*, which slides upon the central flue *b*, and is depressed and kept down by a spiral spring, *c*. The stirrup *d* serves to draw up the cap *a* and band A in the manner shown in dotted lines in the figure.

In the tubular lanterns, as heretofore constructed, when the cap and band are raised by one hand the glass or globe must be grasped by the other, or it will be liable to fall over.

In Fig. 1 the glass or globe is provided with a metallic band, C, placed around said globe below the bead *e*, with which the glass is always provided, and the hooks D or their equivalents may be employed to attach the band C to the band A, and thus secure the glass or globe in place, so that it will be raised by the same power which raises the said band. This may be the most convenient manner of applying my invention to lanterns in the market or in use. In the course of manufacture, other means of attachment could more profitably be employed, as, for instance, some form of the bayonet-joint, as shown in Figs. 2 and 4, or some form of hook-and-eye, as shown in Fig. 3. The band A may be cut and made to open, and by its elasticity clasp the top of the glass, or it may be secured by a binding-screw, spring-catches, or in various other well-known ways not necessary to recapitulate here.

I am well aware that the glasses or globes of lanterns have heretofore been secured to the bands of the lantern-frame; but in all such cases, whether rigidly secured or detachable, the purpose has been to connect the parts of the lantern by means of the glass. In my invention the glass forms no part of the frame, but is supported by it. I am also aware that in the tubular lantern constructed without a sliding cap and band the upper part of the glass has been made cylindrical so as to slide within the stationary cap or upper band.

As the tubular lanterns on which this is an improvement have heretofore been constructed, the perforated diaphragm *g* at the bottom of the glass or globe has been retained in place entirely by the downward pressure of said glass, and when said glass is lifted said diaphragm is liable to fall out of place. I therefore prefer to attach the same to the bottom of the glass B, so that when raised the cone E of the burner will be

fully and conveniently exposed and accessible for lighting the flame.

A similar result may be attained by securing said diaphragm to the cone, as shown in Fig. 5, but I think that would be less convenient than to secure it to the bottom of the glass, as the cone would then be less accessible.

The diaphragm *g* may be attached to the bottom of the globe by means similar to those employed to secure its upper end to the band A, as shown at *h*, Fig. 6, or with plaster, as shown at *i*, same figure.

Having described my invention, what I claim as new is—

1. The sliding band A and globe B of a tubular lantern, in combination with adjustable catches

D, or similar devices not depending upon frictional contact for their action to secure said band and globe together, and yet render said globe easily detachable, as set forth.

2. The band A and globe B, in combination with the band C and adjustable catches or hooks D, for the purpose set forth.

3. In combination with a tubular lantern, the globe B secured to the sliding band A by means of adjustable catches, as set forth, and the diaphragm *g* secured to the lower end of the globe B, as described.

F. A. BALCH.

Witnesses:

L. L. BUCK,

F. J. LEDYARD.