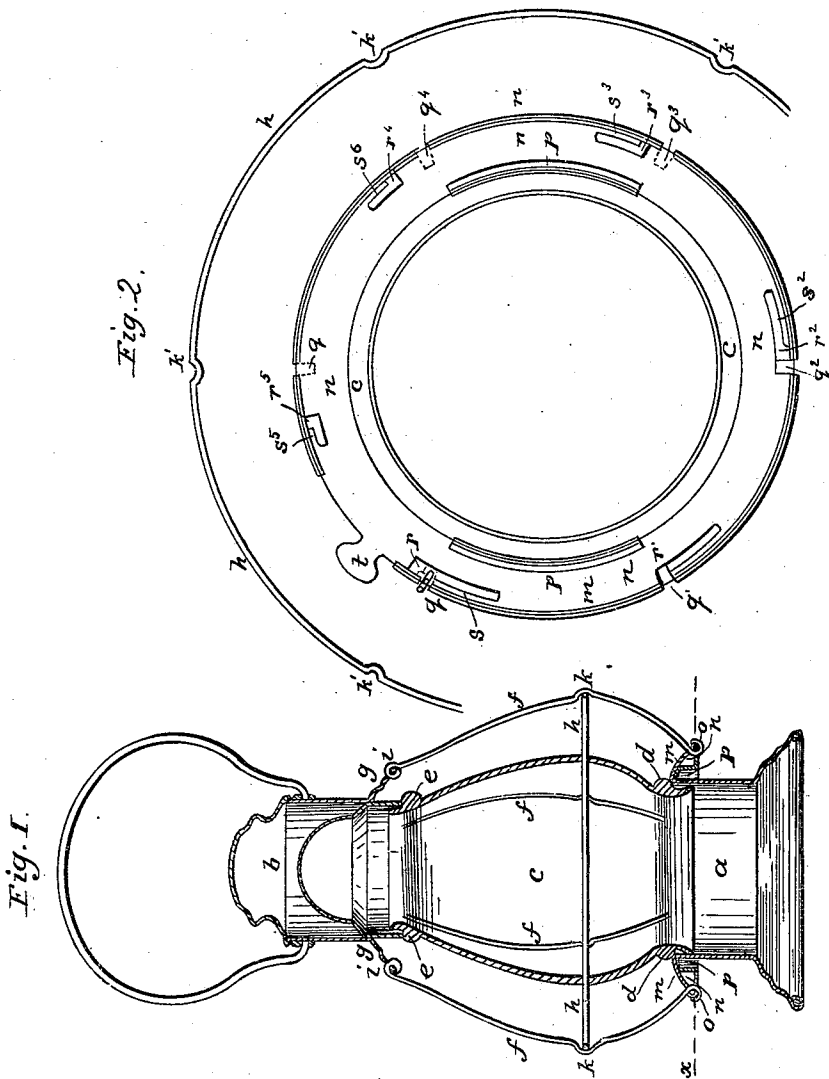


T. BROWN, Jr.

Lantern.

No. 42,906.

Patented May 24, 1864.



Witnesses:
 John M. Mocal
 J. S. M. Keane.

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UNITED STATES PATENT OFFICE.

THOMAS BROWN, JR., OF ALLEGHENY COUNTY, ASSIGNOR TO HIMSELF AND JAMES McLAIN, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN ATTACHMENTS OF LANTERN-GUARDS.

Specification forming part of Letters Patent No. 42,906, dated May 24, 1864.

To all whom it may concern :

Be it known that I, THOMAS BROWN, JR., in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Lanterns; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a vertical section of a lantern with my improved guard. Fig. 2 is a sectional representation of my lantern through *xx*, Fig. 1, viewed from the under side.

In each of the figures like letters of reference denote similar parts of the lantern.

The ordinary mode of attaching the glass or globe to lanterns is to insert the lower part of the glass into the lower portion or lamp-piece of the lantern and cement them together with plaster-of-paris, and to place the cap or top piece of the lantern on the top of the glass and unite them with cement in like manner. The wire guard or frame which surrounds the glass is soldered to the frame above and below. Notwithstanding the protection afforded by the wire guard, the glass often gets broken, and cannot be replaced without sending the remaining parts to the manufacturer.

As large quantities of this description of lanterns are used, especially by railroad companies, it would be a great convenience, as well as a saving of expense, if the wire guard could be removed and the globe replaced without unsoldering and resoldering the guard or the use of cement for attaching the frame of the lantern to the glass.

To accomplish these objects is the purpose of my invention.

To enable others skilled in the art to construct and use my improved lantern, I will proceed to describe the construction and operation of my improvements.

In the drawings, *a* is the bottom part or lamp-piece of the lantern-frame, and *b* is the cap or top piece. *c* is the glass or globe, which may be made of any desired shape. On the outer surface of the glass *c*, at a short distance (say one-fourth of an inch) above its lower edge, is a bead, *d*, surrounding the glass and projecting so far from its surface that the bead will not enter the lamp-piece *d*, but rest upon its upper edge, as seen in Fig. 1. A similar

bead, *e*, surrounds and projects from the outer surface of the glass near its upper edge, on which bead rests the lower edge of the cap-piece *b*. No cement is used to fasten these parts together, as they are held in place by the wires *ff* of the guard. The guard consists of a number of wires, *ff*, which are looped at *i* to a flange, *g*, projecting from the cap. These guard-wires are curved outward in the usual shape, and have a kink at *k*, so as to receive and hold the wire hoop *h*, which surrounds the glass at a little distance from it, where the diameter of the glass is greatest. The wire hoop *h* is not fastened to the guard-wires *ff*, as is ordinarily the case, but is held in place by the tension of the wires *ff*, which are drawn down outside of the hoop *h* and enter into kinks *k* at equal distances apart in the hoop *h* and fastened by a loop, *o*, in the end of the wire and a pin at *l* to the bottom piece of the lantern. At the top of the lamp-piece *a* is an apron, *m*, which surrounds it and extends outward, curving down so as to cover a circular slide, *n*. (Shown in Fig. 2.) Under the apron *m*, and attached to the upper part of the lamp-piece *a*, are two braces, *p*, one on each side of the lantern. The circular slide *n* surrounds the brace *p* and slides upon or around it, so that the braces *pp* and the outer edge of the apron *m*, which is turned under the outer edge of the circular slide *n*, sustain and hold in place the circular slide *n*, to which the lower extremity of the guard-wires *ff* is attached. The apron *m* has a number of notches, *qq'*, cut in its outer edge at equal intervals apart, each of which receives the loop *o* of one of the guard-wires *ff*. The circular slide extending to the edge of the apron covers these notches *qq'*, &c., as seen in Fig. 2. The circular slide has also a series of notches, *rr'*, &c., to assist the loops *o* of the guard-wires *ff*; but these notches *rr'*, &c., are not equidistant, but are so placed as that when one notch, *q'*, in the apron coincides with a notch, *r'*, in the slide the next notch, *q²*, in the slide will be just beyond the notch *q²* in the apron, and the third notch *q³* in the slide will be still further from the third notch *q³* in the apron, and so on, each notch in the slide being farther from the notch in the apron, the degree of difference being the width of one of the notches, *q* or *r*, as seen in Fig. 2. From each notch *rr'*, &c., in the slide a slot

extends parallel to the circumference of the slide, thus forming a pin, *s*, at each notch. These slots vary in length, the end of each slot farthest from its notch in the slide being equidistant from the similar point in the slot on each side of it. The object and effect of this construction of the slide and apron and the arrangement of the slots in both is to enable the guard-wires *f f* to be fastened to the apron *m* one after the other, because if they had all to be fastened at one time it would be impossible for one person to attach the guard; but as one wire only can be fastened at a time they can be all taken in succession and be fastened with the greatest ease. The circular slide *n* has a button, *t*, projecting from its periphery at a point where the edge of the apron is cut away to allow of the slide being turned sufficiently to loosen or fasten all the wires. The button may, if preferred, be turned down so as to avoid liability to accidental movement.

The mode of attaching the guard-wires is as follows: The first notch *r* to the right of the button *t* in the slide being made to coincide with the first notch *q* in the apron, the loop *o* at the lower end of one of the guard wires *f* is inserted and the slide is moved slightly to the left, which causes the point of the pin *s* in the slide to enter the loop *o*, thus securing it in place. This motion of the slide *n* to engage the loop *o* of the wire *f* brings the next notch, *r'*, in the slide to coincide with the notch *q'* in the apron. (This is the position of the parts shown in Fig. 2.) The loop *o* of the next wire, *f*, is then inserted in the open notches *q' r'*, and the slide is turned a little farther to the left, which causes the pin *s'* to enter the loop *o*. This motion of the slide causes a correspondence between the next notches, *q²* and *r²*. The next wire is inserted, and so on, in succession, until all are fastened. The guard will then be drawn tightly down, and will thereby securely fasten the glass in

place between the lamp-piece *a* and cap *b*. The friction of the pins *s s'*, &c., of the slide in the loops *o* of the guard-wires will prevent any tendency of the slide to move or liability to accidental displacement. In case the glass should be broken it is only necessary in order to remove it to draw back the slide *n* by the button *t*, when each of the wires *f f'*, &c., in succession will be released from the pins *s s'*, &c., and the top piece *b*, with the wires *f f'*, &c., attached will be separated from the bottom piece *b*, and the hoop *h* will also be detached.

If preferred the apron and slide may be attached to the top piece of the lantern, and the wires *f f'* may be looped to the bottom piece; but the arrangement above described will be found the more convenient.

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

1. The mode of attaching the globe or glass to the top and bottom pieces of the lantern without cement by means of the guard, substantially as hereinbefore described.

2. The use of a guard for lanterns composed of a detached hoop and wires looped either to the top or bottom part of the lantern and secured to the other part by means of a series of pins on a slide, or other equivalent device, constructed and arranged substantially as described.

3. The arrangement and combination of the notches in the lantern-frame and notches and pins in the slide in such a manner as to fasten the wires in succession.

In testimony whereof the said THOMAS BROWN, Jr., hath hereunto set his hand in presence of us.

THOMAS BROWN, JR.

Witnesses:

A. S. NICHOLSON,

J. WARD NICHOLSON.