(No Model.)

A. L. BARON & W. T. RUFER.

TUBULAR LANTERN.

No. 345,100. Patented July 6, 1886.

Fig. 1.

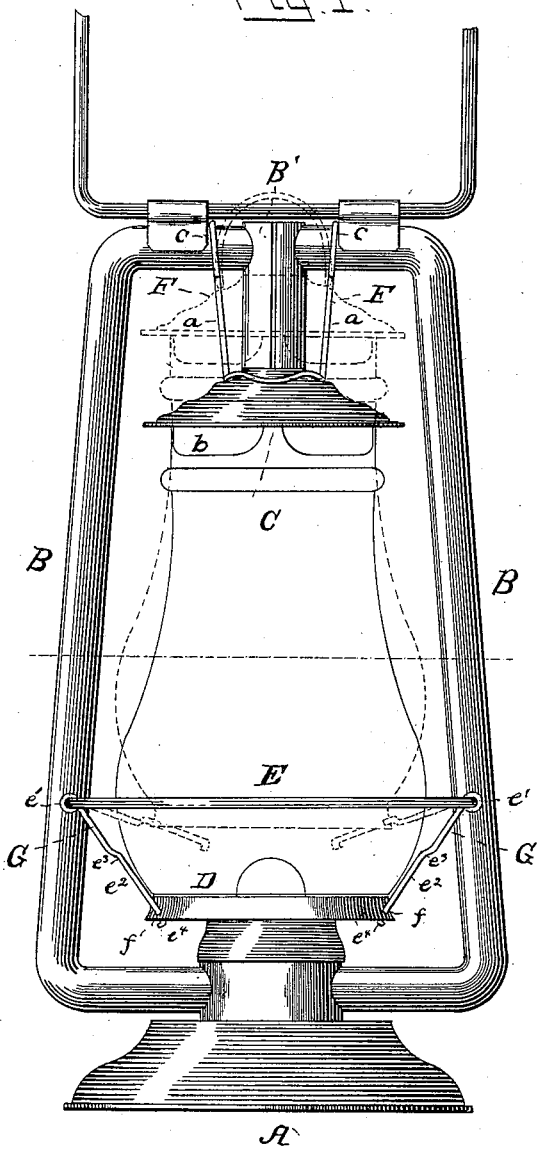


Fig. 2.

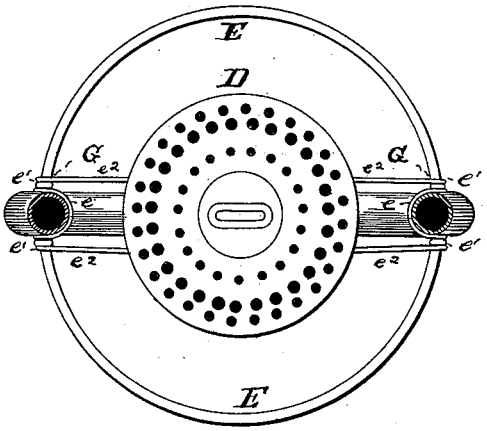
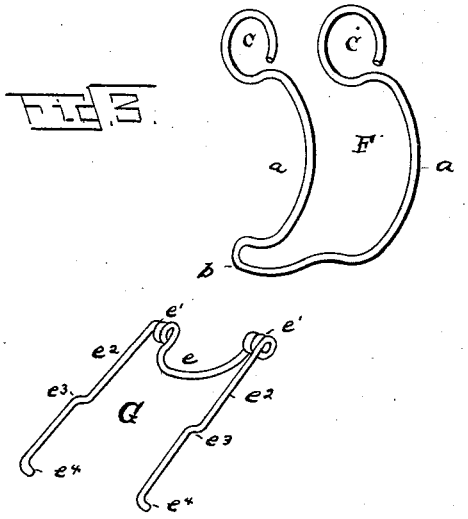


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

ALFRED L. BARON AND WILLIAM T. RUFER, OF BELLAIRE, OHIO.

TUBULAR LANTERN.

SPECIFICATION forming part of Letters Patent No. 345,100, dated July 6, 1886.

Application filed March 26, 1886. Serial No. 196,694. (No model.)

To all whom it may concern:

Be it known that we, ALFRED L. BARON and WILLIAM T. RUFER, citizens of the United States, residing at Bellaire, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Tubular Lanterns; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to tubular lanterns, and the improvements therein are confined, principally, to a spring arranged above the bell or canopy, so as to exert an adjustable elastic pressure thereon, and a pair of springs attached to the guard and supporting the plate upon which the globe rests. The purpose of these springs is to better adapt the lantern to receive globes of various lengths, to enable the globe to be more easily removed for cleaning, &c., and to enable the globe and its supporting-plate to be raised for convenience in trimming and lighting the wick; and the novelty lies in the peculiar construction and arrangement of these springs, all as will be more fully hereinafter described, and pointed out in the claims. For a more perfect understanding of these parts in detail, and of their relation to the several parts of the lantern, attention is invited to the accompanying drawings, in which—

Figure 1 represents in side elevation a tubular lantern embodying our improvements; Fig. 2, a transverse section of the lantern looking down upon the plate which supports the globe, and Fig. 3 a detail of the upper spring and one of the lower springs.

Similar letters of reference denote corresponding parts in the several views.

The drawings show an ordinary tubular lantern, of which A denotes the base; B, the air-tubes; C, the bell or canopy; D, the globe-supporting plate, and E an annular guard, all of which parts are about similar in every respect to those commonly used in this class of lanterns, excepting the necessary adaptation of the globe-supporting plate D, which will be hereinafter fully understood.

F is the upper spring, which is arranged between the upper cross-tube, B, and the bell or canopy C, to lock the latter, together with the globe and its supporting-plate D, in proper position. This spring is composed of a single wire bent into two C-springs, *a a*, united by a spring-clasp, *b*, in the form of a loop, which partly encircles the central tube, B′, and presses upon the bell or canopy C. The ends *c c* of these C-springs are bent around the upper cross-tube, B, upon opposite sides of its central depending tube, B′, (which supports and acts as a guide to the bell or canopy,) and have lateral play upon such cross-tube. The effect of a spring constructed and arranged in this way is, that in setting a globe of an unusual length the springs *a a* will spread out at the points where they are bent to form the clasp or loop *p*, and thus adjust themselves laterally in proportion to the length of such globe with the same amount of adjustable pressure, but more widely distributed.

G G are the two lower springs, which are attached to the annular guard E, and support the globe-supporting plate D at opposite points upon its rim or flange. These springs are of like construction, and consist each of a single wire bent at its center to fit partly around the vertical tube B, as at *e*, then coiled several times around the guard E upon opposite sides of the tube, as shown at e' e', and then, with its two arms, e^2 e^2, carried out and passed through holes *f f* in the rim or flange of the globe-supporting plate D, or through loops on the bottom of said plate. These arms e^2 e^2 are bent up at the centers e^3 e^3, and are then extended out in a horizontal line, and are bent at the ends into hooks e^4 e^4, between which points the plate D has movement in the act of raising and lowering the globe or in removing and replacing a globe, as shown by dotted lines in Fig. 1. As represented by solid lines in said figure, when a globe is in position, the plate D is held by the hooked ends of the springs G G in support upon the shoulder of the burner, and, as represented by dotted lines, when the globe is lifted—as, for instance, in trimming or lighting the wick or when it is removed—the said plate is raised and held in a horizontal plane with the arms of said springs.

The advantages asserted for our improvements are, exceeding strength and cheapness, combined with greater efficiencies.

What we claim, and desire to secure by Letters Patent, is—

1. The combination, with a tubular lantern provided with the side and central tubes and bell, as described, of the spring F, arranged between the upper cross-tube and the bell, and composed of a single wire bent into two C-springs united by a spring-clasp around the central tube, and with its two ends bent around the upper cross-tube, substantially as described.

2. The combination, with a tubular lantern provided with side and central tubes, a bell, and a spring arranged between the bell and the upper cross-tube, of the guard E, the globe, its supporting-plate D, provided with holes *f*, and the springs G G, each composed of spirals $e' e'$, wound around the guard, and two arms, $e^2 e^2$, projecting through said plate, substantially as described.

3. The combination, with a tubular lantern, of the guard E, the supporting-plate D, and the springs G G, each composed of spirals $e' e'$, wound around the guard, and two arms, $e^2 e^2$, with bends $e^3 e^3$, and hooked ends $e^4 e^4$, substantially as and for the purposes described.

4. The combination, with a tubular lantern, of the bell, the globe, the supporting-plate, the guard, the spring F, arranged above the bell and composed of a single wire bent into two C-springs united by a spring-clasp around the central tube, and the springs G G, connected to the guard and to the plate, and composed each of two spirals, $e' e'$, and two arms, $e^2 e^2$, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ALFRED L. BARON.
WILLIAM T. RUFER.

Witnesses:
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JOHN A. GALLAHER.