L. J. MARCY.

Magic Lantern.

No. 77,300. Patented April 28, 1868.

Fig. 2

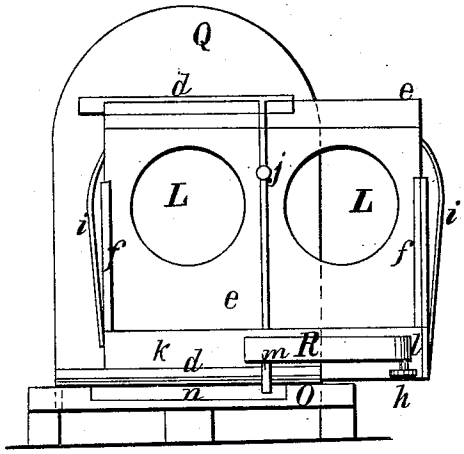
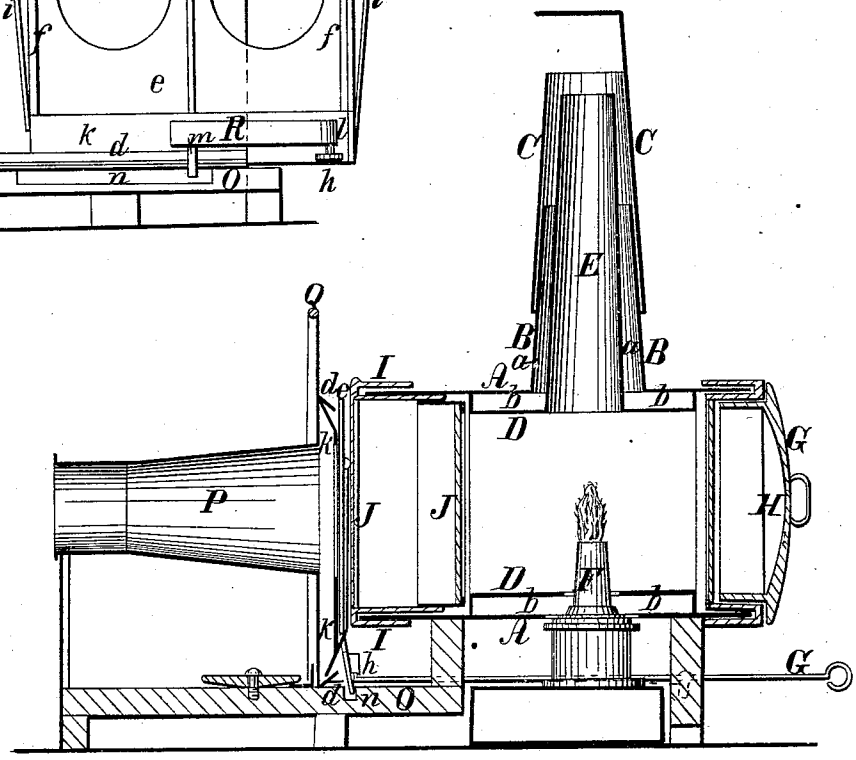


Fig. 1



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L. J. MARCY, OF NEWPORT, RHODE ISLAND.

Letters Patent No. 77,300, *dated April* 28, 1868.

IMPROVEMENT IN MAGIC-LANTERNS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, L. J. MARCY, of Newport, in the county of Newport, and State of Rhode Island, have invented certain new and useful Improvements in Magic-Lanterns; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central vertical section, taken through the cylinder forming the body of the lantern.

Figure 2 is a back view of the slider-frame.

Similar letters of reference indicate corresponding parts.

The nature of this invention relates to the construction of the body or box of magic and signal-lanterns; and consists of forming the same with an inner and outer shell, with an air-space between the body of the lantern, may be made much smaller than were heretofore made without becoming unduly heated.

Other devices, perfecting the whole, render this invention an improvement on the magic-lanterns as heretofore made, as will hereinafter be fully set forth.

In fig. 1, the external case or shell of the lantern-box is shown at A, and is surmounted with a chimney, B, and detachable extension, C, as shown.

The inner shell, D, is of sheet metal, and is provided with a chimney, E, within the outer chimney, and separated from the latter by an air-space, *a*, similar to the air-space *b*, between the shell *f*.

The lamp-burner F projects upward through openings in both shells, as shown. G is a cap fitting upon the outer shell, and contains the reflector H, of any suitable form.

The condensing-lens is held by the removable cap I, as shown, and the lens is indicated by the glasses J J, though in practice a plano-convex lens is used. The cap I fits on the end of the outer shell, and is readily detachable therefrom, as will be obvious. The upper ends of both chimneys being the same height, the ascending current of heated air will induce a current of cool air to enter at the lower opening of the outer shell, and pass around between the shells and out between the chimneys. By this means the outer shell is kept cool and capable of being handled in operating the lantern.

At fig. 2 is shown the slider-plate K, having the circular openings L L. This slider-plate fits, with easy contact, in the grooves *d d* affixed to the tube-plate Q, and is moved to the right or left to bring the picture-glasses in front of the condensing-lens. The slider-plate contains the two picture-glasses *e e*, which slip into the vertical grooves *f f* formed by bending the edges of the slider-plate K, as shown. The slider-plate is moved to and fro by the lever *g*, which is pivoted to the board or base *o*, upon which the lantern rests, and also pivoted to the slider-plate, as shown at *h*.

The springs *i i* serve to hold the picture-glasses from rattling, and the pin *j* serves to hold the two glasses from contact with each other.

The space between the shells may be filled with plaster of Paris or other non-conductor of heat; or, instead of the upset flanges R R, plaster-of-Paris rings may be employed to keep the shell apart, and metallic connections between them thereby avoided.

An arm, R, pivoted to the slider-plate, as shown at *l*, and provided with a pin, *m*, working in a slot, *n*, in the board *o*, serves to limit the movement of the slider-plate.

When this invention is to be employed in the construction of signal-lamps having different-colored lenses, in the place of the condensing-lens, the tube P, which contains the small lens, is removed, also the slider-plate and lever.

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

1. Forming the box or body of a magic-lantern, or other lens-lantern, with a double shell, A D, and double chimney, C E, substantially as shown and described, and for the purpose set forth.

2. The slider-plate K, lever G, grooves *d d* and *f f*, and tube-plate Q, all constructed and operating substantially as shown and described, and for the purpose set forth.

3. The double cylinder A D, caps I and G, chimneys C E, and lens J J, all constructed and operating together, substantially as shown and described, and for the purpose set forth.

4. The cylindrical form of the box or body A of a magic or signal-lantern, when the diameter of the same is just sufficiently large to contain the condensing-lens or bull's-eye, (or a reasonable approximation thereto,) substantially as shown and described, for the purpose of rendering the said lantern more portable, in combination with a sheet-metal chimney and condensing-lens or bull's-eye, J J, all as set forth.

The above specification of my invention signed by me, this 10th day of March, 1868.

L. J. MARCY.

Witnesses:

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