

S. H. MILLER.
Lantern.

No. 162,090.

Patented April 13, 1875.

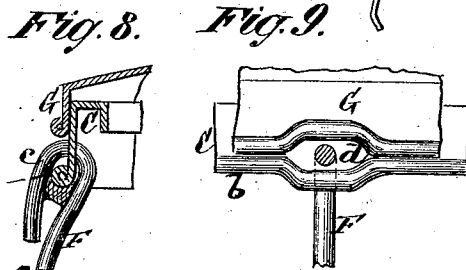
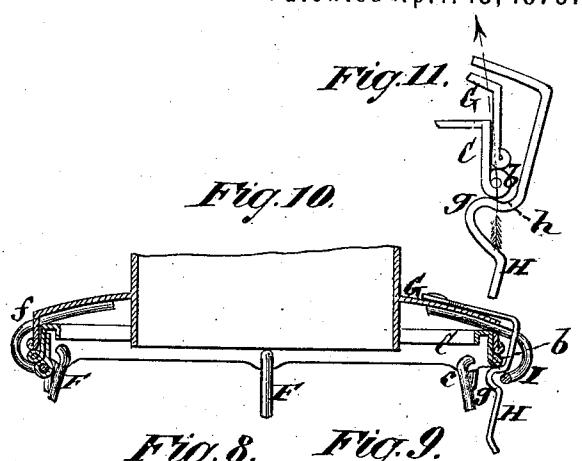
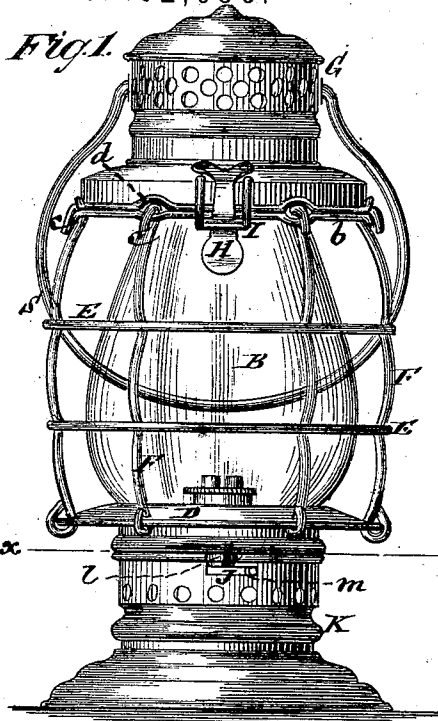


Fig. 2.

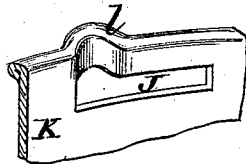
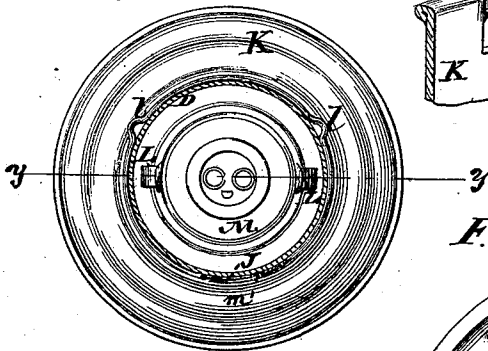


Fig. 6.

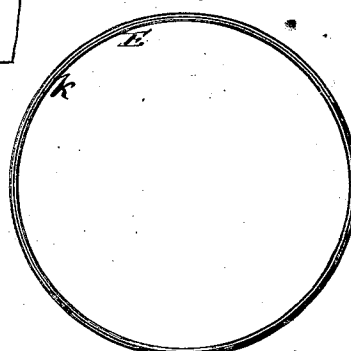


Fig. 4.

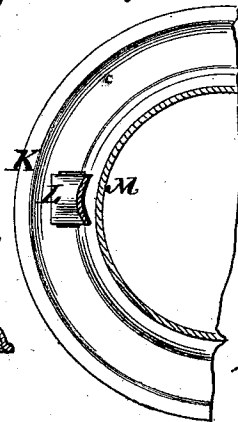


Fig. 3.

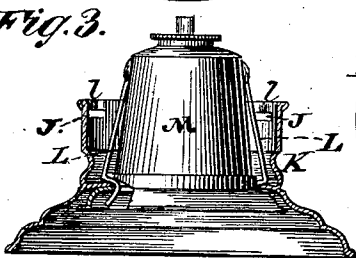
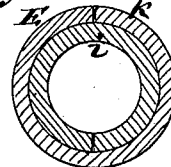


Fig. 7.



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UNITED STATES PATENT OFFICE.

SAM HOUSTON MILLER, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF
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IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. 162,090, dated April 13, 1875; application filed
February 19, 1875.

To all whom it may concern:

Be it known that I, SAM HOUSTON MILLER, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Lanterns; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

Figure 1 represents an outside elevation of a lantern constructed in accordance with my invention. Fig. 2 is a horizontal section on the line *x x*, and Fig. 3 a vertical section on the line *y y*. Fig. 4 is a horizontal section, in part and upon a larger scale, of the lamp and its stand or base portion of the lantern, together with a spring for holding the lamp in place. Fig. 5 is a view in perspective of the bayonet-fastening used to connect the body of the lantern with the base. Fig. 6 is a face or top view of one of the intermediate annular guards used in the construction of the body or frame of the lantern; and Fig. 7, a transverse section thereof on a larger scale. Figs. 8 and 9 are sectional elevations at right angles to each other, in illustration of a special construction of the top ring of the frame and of the lid or opening and closing top of the lantern, or either, to provide for a certain connection of the upright wires with the top ring of the frame. Fig. 10 is a vertical section, likewise upon a larger scale, of the opening and closing top and of the upper ring of the frame, with means for holding the former to the latter, including a spring-catch of novel construction; and Fig. 11, a view of said spring-catch in its relation with the frame and lid or top of the lantern, detached for more perfectly illustrating the locking action of the catch.

This invention more particularly relates to railroad hand-lanterns for signaling purpose, but in certain features is also applicable to other lanterns; and the invention consists in certain novel constructions of details, whereby increased lightness, security, cheapness of construction, and strength are combined.

In the accompanying drawing the main body or frame of the lantern is of skeleton construction, and incloses or guards a glass shade, B. Said frame is composed of a top cap or ring,

C, formed with an exterior lower head or turned flange, *b*, a base portion, D, intermediate annular guards E, and upright wires F, connecting the top cap or ring C, the base portion D, and the intermediate annular guards E. To obtain a more secure connection than can possibly be attained by merely soldering the upper ends of the uprights F to the top cap or ring C, said uprights have their upper ends, which are of hook form, as at *c*, passed through the ring C, and made to engage with or hook over the bead *b* of the top cap or ring C. To prevent this mode of connecting the upright wires with the top cap or ring C from interfering with the close fit of the opening and closing top or ventilating-lid G of the lantern over the top cap or ring C and down on the bead *b*, a cavity or space, *d*, is formed in said bead portion of the cap C, or in the lower edge or flange portion of the opening and closing top G, or in both, for reception of the upper hooked portions of the uprights F, between the upper cap or ring C of the main frame and the opening and closing top G. Such cavity or space *d* is formed by indenting or crooking either or both of the meeting edges of the top G and cap or ring C. The opening and closing top G is hinged, as at *f*, to the cap or ring C, and is provided with the usual bail S, by which the lantern is swung or carried. Inasmuch as the lantern is thus carried by its top G, it is highly important that the latter, when closed, should form a firm and secure lock with the cap C or upper portion of the main frame. I therefore construct and protect the spring-catch H, which fastens the opening portion of the lid or top G, substantially as follows: The locking crook or bend *g* and hollow *h* of the spring-catch are constructed so that when the spring-catch flies to its place to hold the lid G down on the top ring C, (see more particularly Figs. 10 and 11,) the center from which the crook *g* is struck lies considerably within a vertical line intersecting the center of the bead *b* of the top ring C, and so that the highest part of said crook not only underlaps the bead *b*, but lies slightly within it, and the hollow *h* of the catch occupies a position below the bottom of the bead *b*, free from contact with the latter. By this construction of the spring-catch H any

extra pull or strain on the lid G to open it, whether produced by swinging the lantern or otherwise, will exert a tendency to still further tighten the hold of the catch by springing the latter so that its hollow *h* is made to more or less receive the bead *b*, and the crook *g* be caused to pass upward within the cap C. It, therefore, will be necessary to specially spring the catch H outward by hand before the lid G can be opened. To prevent the catch *h* from being jerked too far outward, and so endangering its breakage or impairing its efficiency, I attach to the lid G a guard, I, arranged to project over the back or outside of the catch, but exempt from contact with the latter, except when the catch is sprung outward sufficiently to admit of the lid G being opened. Said guard I then acts as a stop to the catch, and is a protection against violent or rough manipulation of it. The intermediate annular guards E are constructed with a special regard to lightness and strength. Thus, instead of each annular guard being made of a single solid wire of circular form and united at its ends by a tip, it is constructed hollow and of two rings, *i* *k*, the one, *i*, of which is incased by the other, *k*, and without any transverse joint, at least as regards the outer one *k*, said rings being made by striking up sheet metal into the form of a hollow ring, having its joint or meeting edges longitudinal—that is, throughout the circumference of the ring. The absence of a transverse joint in the compound ring or annular guard makes the latter less liable to open when in place. In some cases the inner ring *i* might, however, be solid and of wire, having a transverse joint, but it is preferred to construct both component parts or rings *i* *k* alike, as shown in Fig. 7, and so to make a hollow and light structure or guard, the one ring incasing and being formed around the other, both when the two rings are made hollow and when the outer one only is so constructed.

The bayonet-fastening, by which the body of the lantern is connected with the base or stand thereof, is of peculiar construction. Thus, it is composed of a slot, J, in the upper ring of the base K, arranged circumferentially in relation with said ring, but closed on all its

sides or edges, and an outward crook or bend, *l*, made in the ring, extending from the upper edge of the latter down to the one end of the slot. This construction provides for the passage of the stud or projection *m* attached to the base portion D of the body down to and within, or without and up from, the slot J, to fasten and unfasten the body and base, without cutting through the upper edge of the ring of the base K, thereby greatly adding to the strength of said base or stand. Of course, there may be any number of these bayonet-fastenings arranged around the base. The action of them is similar to that of other bayonet-fastenings, the crooks or bends *l* being the important novel feature of construction in this case.

The springs L, by which the lamp M is held to its place in the base or stand K, are of arched or curvilinear construction in their transverse section, as seen more clearly in Fig. 4. This construction of the springs adds materially to their strength and preservation of their form.

I claim—

1. The combination, with the cap or ring C, having a flange, *b*, and rigidly supported at the top of the shade of a lantern by vertical wires F, of the ventilating top G hinged to said cap or ring, and provided with the spring-catch H, constructed with the hollow *h* and bend *g*, for engaging with the fixed cap or ring, substantially as and for the purpose described.

2. The combination of the lantern-body, having the hinged lid G and the cap-ring C, provided with a bead, *b*, and series of notches *d*, with the uprights F, having the hooked ends *c* passing through the notches in the cap-ring, for engaging with the bead *b*, as and for the purposes described.

3. The annular guards E, constructed of a hollow outer ring having its joint concentric with its circumference, and an inner ring incased by the outer ring, substantially as described.

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