(No Model.) 2 Sheets—Sheet 1.

H. D. HINKS.

HURRICANE LANTERN.

No. 572,895. Patented Dec. 8, 1896.

Fig. 1.

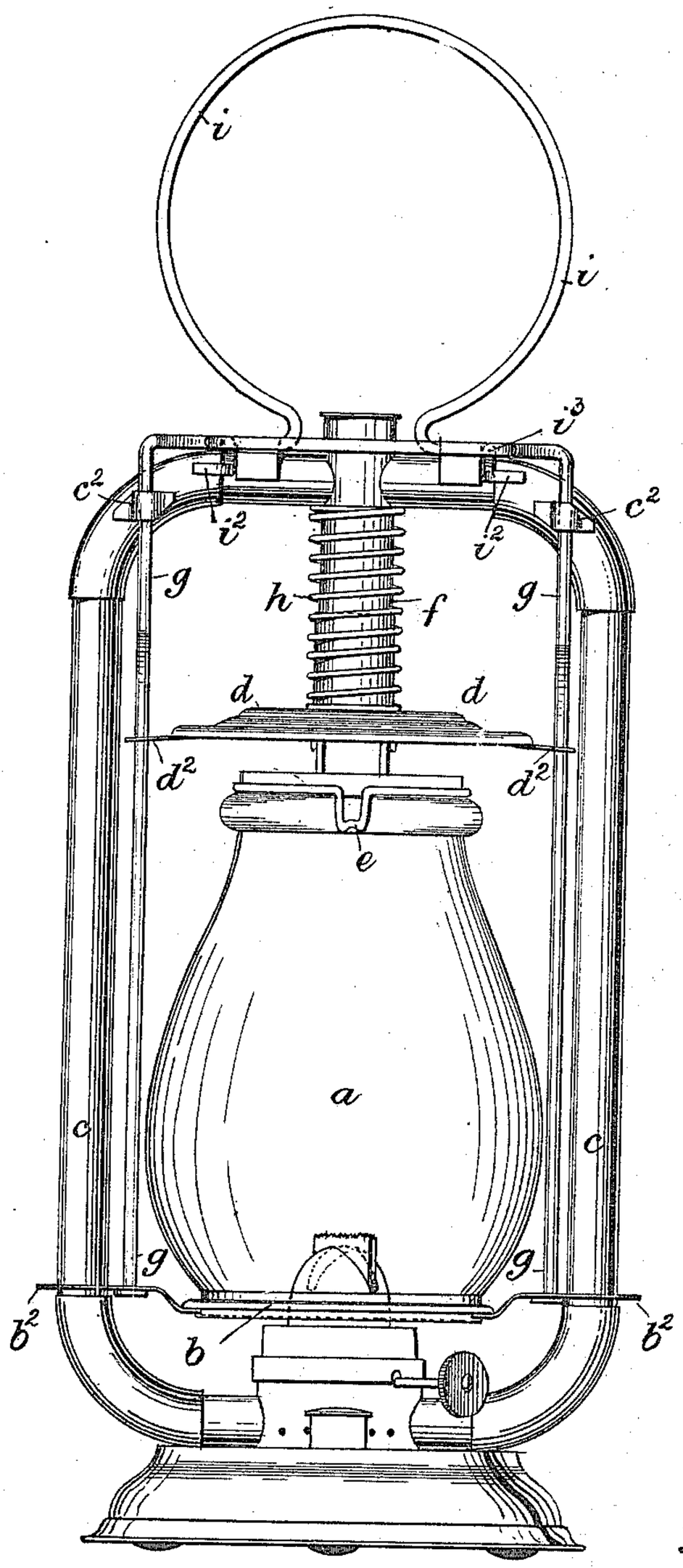
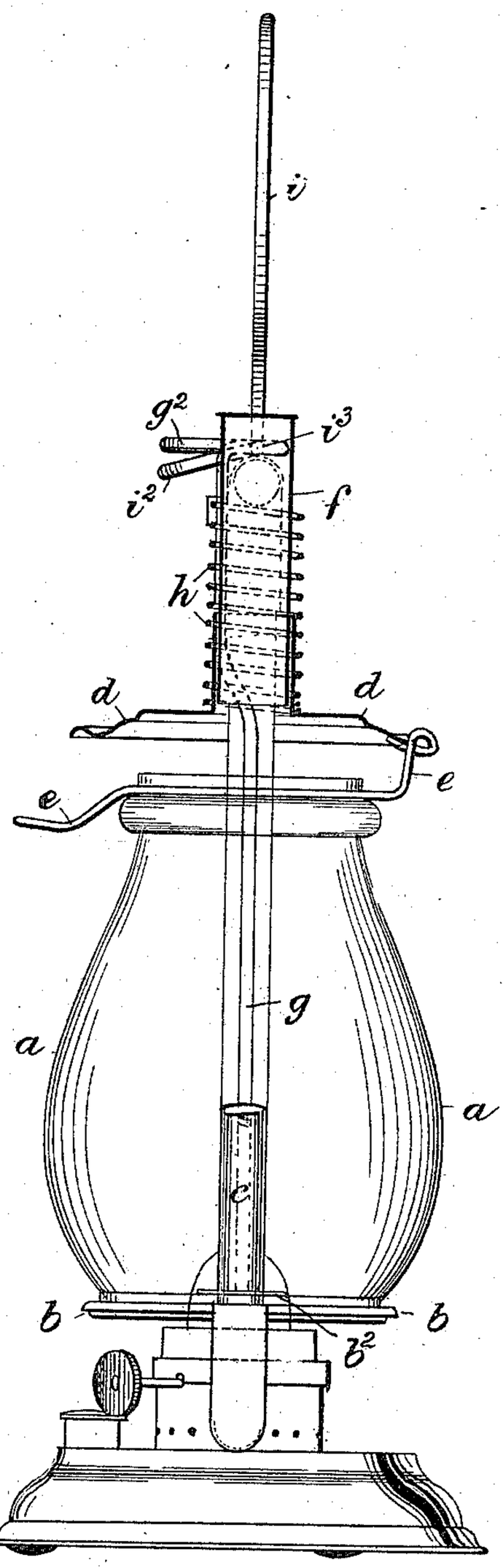


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

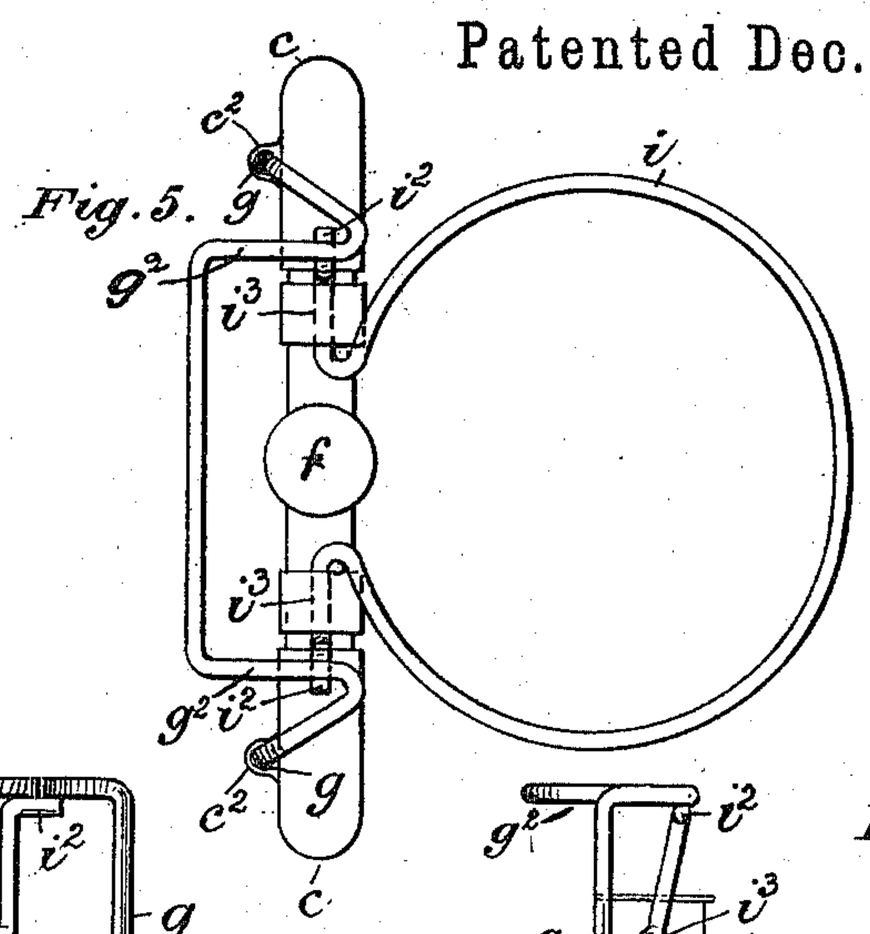


Fig. 3.

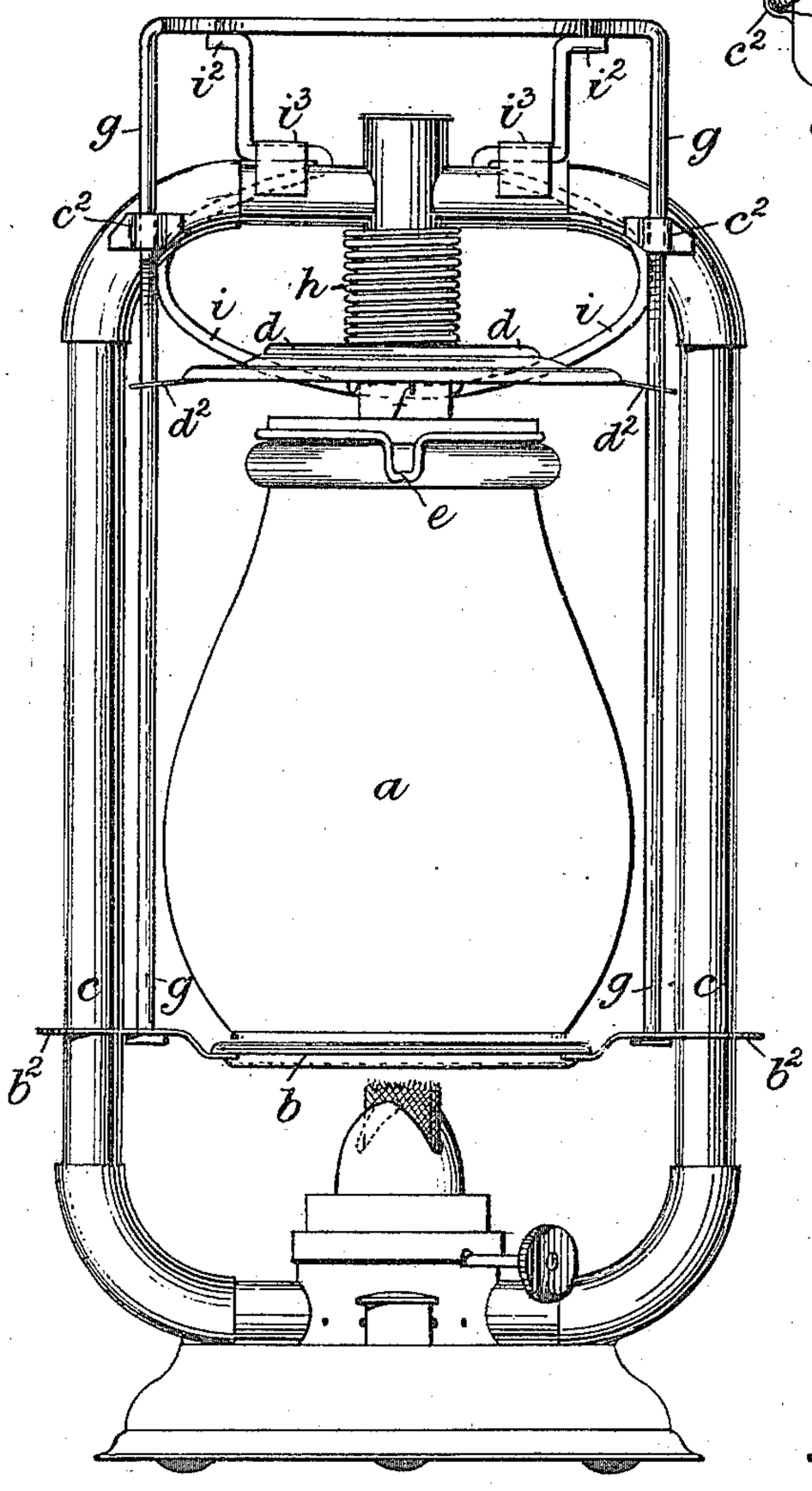
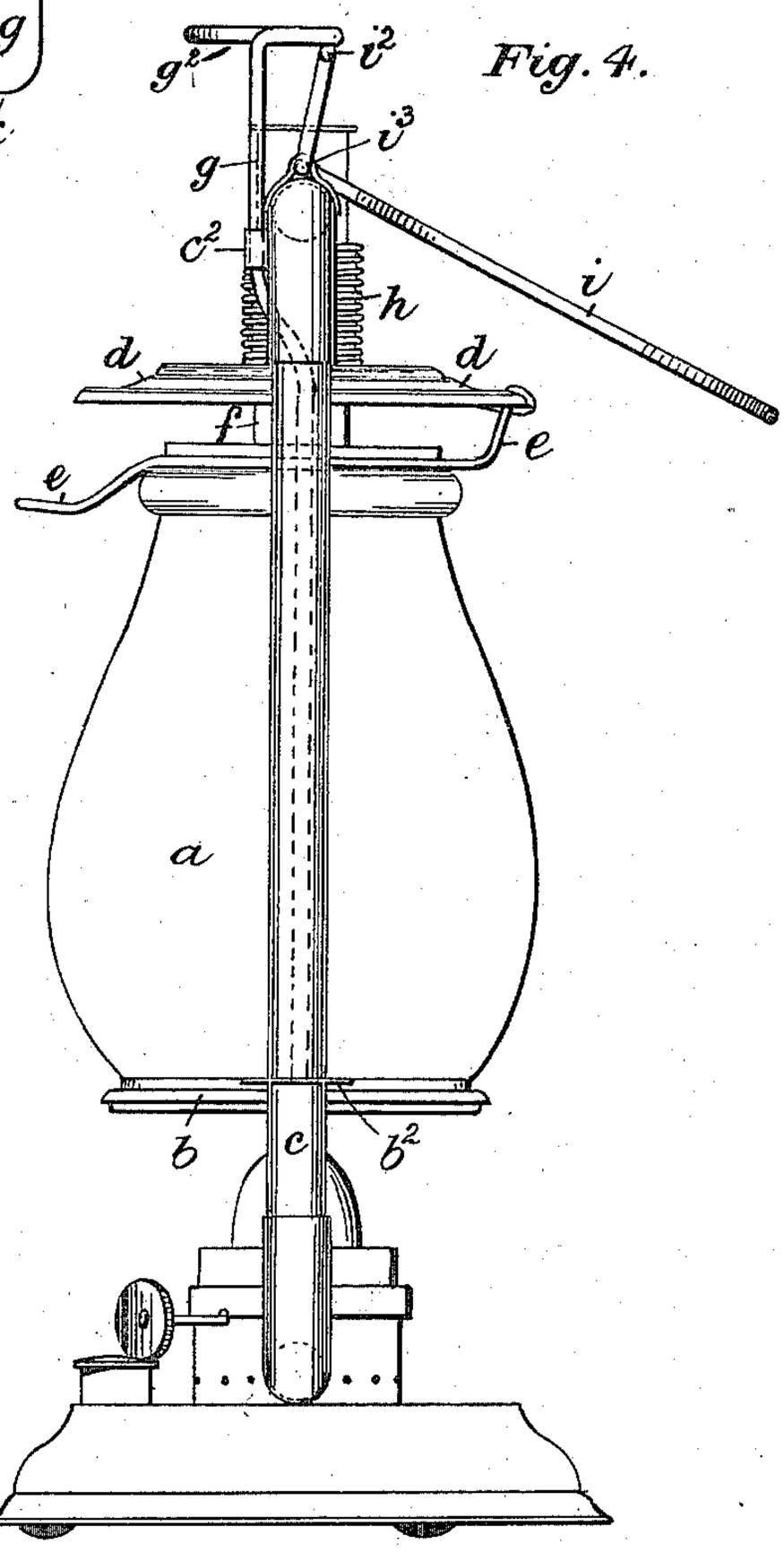


Fig. 4.



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UNITED STATES PATENT OFFICE.

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HURRICANE-LANTERN.

SPECIFICATION forming part of Letters Patent No. 572,895, dated December 8, 1896.

Application filed April 3, 1896. Serial No. 586,099. (No model.)

To all whom it may concern:

Be it known that I, HARRY DAIN HINKS, a subject of the Queen of Great Britain, residing at Birmingham, England, have invented certain new and useful Improvements in Tubular or Hurricane Lanterns; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My said invention consists of the construction and arrangements, hereinafter described, of the parts connected with the globes of tubular or hurricane lanterns for the purpose of facilitating the raising of the said globes for lighting and trimming the wicks of the lanterns and for lowering the said globes into their normally-depressed positions and for securely holding and locking down the same during the use of the lanterns.

According to this invention the gallery on which the globe is supported has projecting earpieces or guides, which embrace and are capable of sliding freely upon the vertical parts of the air-tubes of the lantern. The sliding cap above the globe and the globe-gallery are connected together by a sliding wire frame, by acting upon which the globe and its connected gallery and cap can be lifted. A coiled spring around the axial air-tube of the lantern and bearing against the cap presses down the globe into its lowered position. For lifting the globe the jointed handle of the lantern has inner parts projecting beyond the joint. These inner parts constitute short arms of a lever, while the handle proper constitutes the long arm of the lever. When the sliding globe and its parts are in their lowered positions and maintained in those positions by the pressure of the coiled spring described, the lever-handle is situated vertically and its short lever-arms are situated horizontally and are engaged under the top bar of the lifting-frame. By turning down the lever-handle its short arms rise, and, acting upon the lifting-bar of the frame, raise the said frame, together with the globe and its gallery and cap, the coiled spring being compressed. When the lever-handle has been turned down somewhat beyond a right angle, its short arms are raised into a position somewhat beyond the vertical, so that the position of the said arms and the pressure of the coiled spring upon the lifting-frame tend to hold securely the several parts in their raised position. In this position of the parts the burner of the lantern is exposed for lighting and trimming the wick.

In the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation of my improved lantern, the globe being shown in its lowered position. Fig. 2 is a side elevation, partly broken away, showing the globe in the same position. Fig. 3 is a front elevation showing the globe in its elevated position. Fig. 4 is a side elevation showing the globe in the same position as shown in Fig. 3; and Fig. 5 is a top plan view of the lantern, showing the parts in the position they assume when the globe is raised.

a is the globe, supported at bottom by the sliding gallery *b*, having at opposite sides the projecting earpieces or guides b^2 b^2, which embrace and are capable of sliding freely upon the vertical parts *c c* of the air-tubes of the lantern.

d is the cap above the globe *a*. The cap *d* carries the spring-wire clip *e*, by means of which the top of the globe can be connected to or detached from the said cap. The cap *d* slides on the axial air-tube *f* of the lantern and is secured at d^2 d^2 to a lifting wire frame *g*, working through the eyes or guides c^2 c^2 on the crossing top of the air-tubes, the sides of the said frame being situated parallel with the vertical air-tubes.

The bottom ends of the vertical sides of the lifting-frame *g* are secured to the earpieces b^2 b^2 of the globe-gallery *b*, and the top of the said frame, which is situated above the crossing top of the air-tubes, is bent to form V-shaped arms g^2, as most clearly shown in Fig. 5. By means of these arms the descent of the globe is limited, and by acting upon the said arms by means of the lever-handle, hereinafter described, the globe *a* and the cap *d* can be lifted. The said connected gallery and cap, by which the globe is supported and held, and the lifting-frame *g* g^2 are pressed down into their lowered position, Figs. 1 and 2, (when at liberty to move,) by the coiled spring *h* around the axial air-tube *f* of the lantern, the said spring bearing against the cap *d*, the stops at the top of the lifting-frame *g* limit-

ing the descent of the said parts, as before described.

For the purpose of lifting the sliding globe into the position represented in Figs. 3 and 4 for gaining access to the burner I use a wire-ring lever-handle, (marked $i\,i^2$,) jointed at $i^3\,i^3$ to the crossing part of the air-tubes. The inner ends of the handle i project beyond the joints $i^3\,i^3$ and constitute short arms $i^2\,i^2$ of a lever situated at right angles to the handle part i, the said handle part i constituting the long arm of the lever. The said short arms $i^2\,i^2$ of the lever-handle are engaged under the arms g^2 of the lifting-frame g. The short arms of the lever-handle can only move in the direction proper to lift the arms g^2, their movement in the other direction being blocked by the crossing top of the air-tubes. (See Fig. 2.)

It will be seen by reference to Figs. 1 and 2 that when the sliding globe and the parts connected with it are in their lowered positions, and held in those positions by the pressure of the expanded coiled spring h, the lever-handle i is situated vertically, and its short lever-arms $i^2\,i^2$ are situated nearly horizontally and are engaged under the arms g^2 of the lifting-frame g. By turning down the lever-handle i its short arms $i^2\,i^2$ rise, and, acting upon the lifting-arms g^2 of the frame g, lift the said frame g, together with the globe a, its gallery b and cap d, the coiled spring h being compressed, as illustrated in Figs. 3, 4, and 5. When the lever-handle i has been turned down somewhat beyond a right angle, its short arms $i^2\,i^2$ are raised into a position somewhat beyond the vertical, (see Fig. 4,) so that the position of the said arms with respect to the center of the lever-handle and the pressure of the coiled spring h upon the lifting-frame $g\,g^2$ tend to hold securely the several parts in their raised positions, as illustrated in Figs. 3, 4, and 5, in which positions of the parts the burner of the lantern is exposed for lighting and trimming the wick.

Having described my invention, what I claim is—

In a lantern, the combination with the tubular frame c, c, of the globe-supporting gallery b arranged to slide vertically on said frame, the wire frame g connected at its lower ends to said gallery and provided at its upper end with horizontal bent arms g^2, the globe-cap d attached to the frame g, the spring h for depressing the frame, gallery and cap, and the handle-lever i hinged to the upper portion of the tubular frame and provided with arms i^2 bent at right angles to the handle portion of said lever and operating when the handle-lever is turned down to abut the under side of the arms g^2 and raise the frame g against the tension of the spring, the said arms g^2, when the handle-lever is turned up, resting upon the upper portion of the tubular frame and limiting the downward movement of the frame g, substantially as described.

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