(No Model.)

F. KUNTZ.

LANTERN.

No. 343,461. Patented June 8, 1886.

Fig. 1.

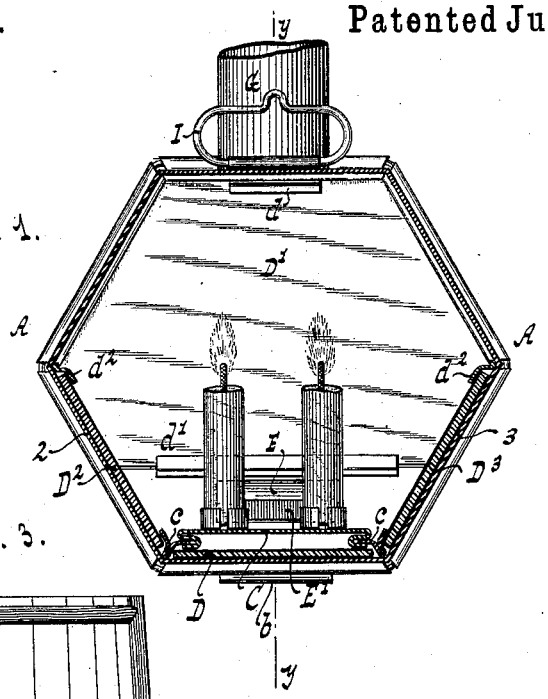


Fig. 3.

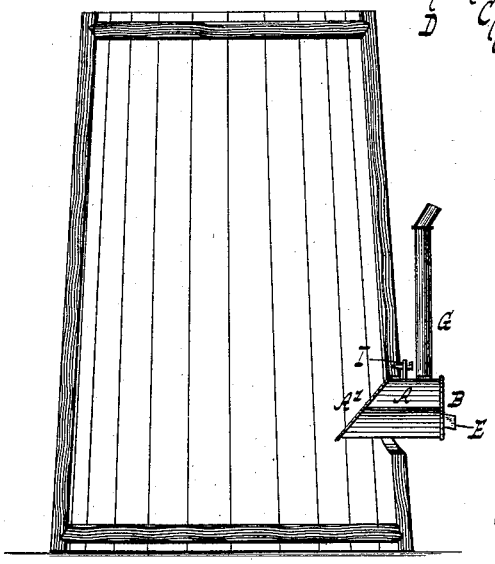
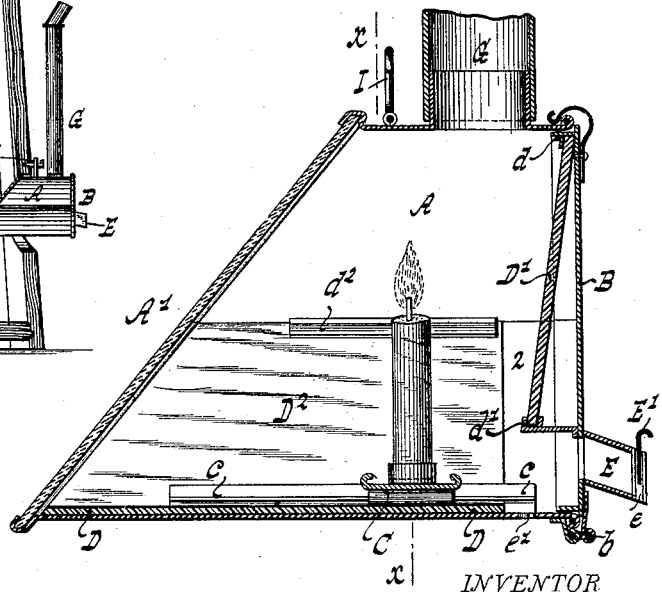


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANZ KUNTZ, OF NEW YORK, N. Y.

LANTERN.

SPECIFICATION forming part of Letters Patent No. 343,461, dated June 8, 1886.

Application filed April 8, 1886. Serial No. 198,214. (No model.)

To all whom it may concern:

Be it known that I, FRANZ KUNTZ, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Lanterns, of which the following is a specification.

My invention relates to improvements in lanterns; and it consists, essentially, in a lantern having a polygonal or cylindrical body, an inclined translucent front, and a reflector on its bottom to direct the rays of light upward and outward through the inclined front. In combination with the above-described elements are additional reflectors on the sides and the back of the body, an air-tight inlet, a movable lamp, a chimney for the escape of the heated gases of combustion, and a suspension device, whereby I have constructed a lantern which is especially suitable to illuminate the interior of brewers' vats while such vats are being varnished without igniting the volatile gases from the varnish.

The peculiar construction of this lantern is more fully pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 represents a transverse section of the lantern in the plane *x x*, Fig. 2. Fig. 2 is a longitudinal section thereof in the plane *y y*, Fig. 1. Fig. 3 is a sectional view showing the lantern applied to a vat so as to illuminate the interior thereof.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the body of the lantern, which is preferably of a hexagonal cross-section, but may be made with more or less sides, or cylindrical. The front A′, Fig. 2, of this polygonal body is cut obliquely to slope from the top outward, and is closed by a pane of glass, so that the rays of light may be deflected upward through the same, while the back is closed by a door, B, that is hinged at its lower end to the body by a link-hinge, *b*, so that it can be swung downward to gain access to the body of the lantern.

C is the lamp or candle support, which is adjustable in the direction of the length of the lantern-body on ways *c c*, that are soldered or otherwise secured to the latter. When candles are used, the support is provided with the well-known spring-sockets, as shown in the drawings, to receive the same; but when a lamp is used it must be provided with ways to receive the lamp-reservoir, as usual.

To reflect the rays radiating from the source of light upward and outward through the inclined front A′, I make use of a reflector, D, of silvered glass or other suitable material, which is secured to the bottom of the body. In the example shown in the drawings the ways *c c* of the lamp support also serve to clamp the reflector D down to the bottom, the latter being inserted under the ways through the open back of the body. A second reflector, D′, attached to the door B, serves to throw the light outward, and in order that it may also reflect the rays upward through the front I slightly incline the said reflector with its lower end toward the front. This reflector is secured to the door at its top by a clamp, *d*, and its bottom rests on a socketed bracket, *d′*. Additional reflectors, D^2 D^3, are attached to the sides 2 and 3, Fig. 1, which are held in place by clamps d^2 d^2, that are soldered to the body, and also by the ways *c c*.

To furnish the lantern with the necessary air, an air-inlet tube, E, is secured to the cover, and this tube is closed by a damper, E′, that slides in ways *e e*, Fig. 2, formed on said tube, so that by adjusting this damper the supply of air to the body can be regulated.

To prevent the lamp from being extinguished in case the damper E′ should be accidentally adjusted so as to completely shut off the supply of air, I provide one or more small holes or auxiliary inlet-orifices, *e′*, in the bottom of the lantern-body. A chimney, G, leads from the top of the body A, through which the products of combustion make their exit. An eye or other suspension device, I, is secured to the top of the lantern-body in front of the chimney, which eye is also convenient as a handle when carrying the lantern.

The brewers' vats in ordinary use frequently require a new coat of varnish on the interior, and when ordinary lanterns are used to illuminate the interior of the vat the volatile gases from the varnish are liable to come in contact with the flame and explode. To prevent this I have constructed my improved lantern, to the interior of which air can have access only through the proper air-inlet orifices.

In applying my lantern to a vat, Fig. 4, it is inserted through the man-hole just sufficiently to bring the top edge of the front beyond or on line with the inner face of the staves, and is held by a nail or other retaining device secured to the vat. The chimney can be carried upward and away from the vat.

It will be observed that the lantern will brightly illuminate the interior of the vat, since the light is reflected upward through the oblique front of the lantern, and that the air supplied to the flame is drawn from outside of the vat, and consequently there can be no danger of an explosion.

What I claim as new, and desire to secure by Letters Patent, is—

1. A lantern having a polygonal or cylindrical body, an inclined translucent front, and a reflecting-surface on its bottom to direct the rays upward and outward through the inclined front, substantially as shown and described.

2. A lantern having a polygonal body, an inclined translucent front, a bottom reflecting-surface, a reflecting-surface on its sides forming an angle with the bottom reflecting-surface, and a reflecting-surface on its back, substantially as shown and described.

3. The combination, with the body A and the eye or handle thereof, of the inclined translucent front A′, the reflecting-surface D, arranged on its bottom, the reflectors D′ D² on the sides, the adjustable lamp-support C, the hinged door B, the inclined reflector D′, secured thereto, the air-supply tube E, the adjustable damper E′ thereof, and the chimney G, substantially as set forth.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

FRANZ KUNTZ. [L. S.]

Witnesses:
W. HAUFF,
A. FABER DU FAUR, Jr.