

(No Model.)

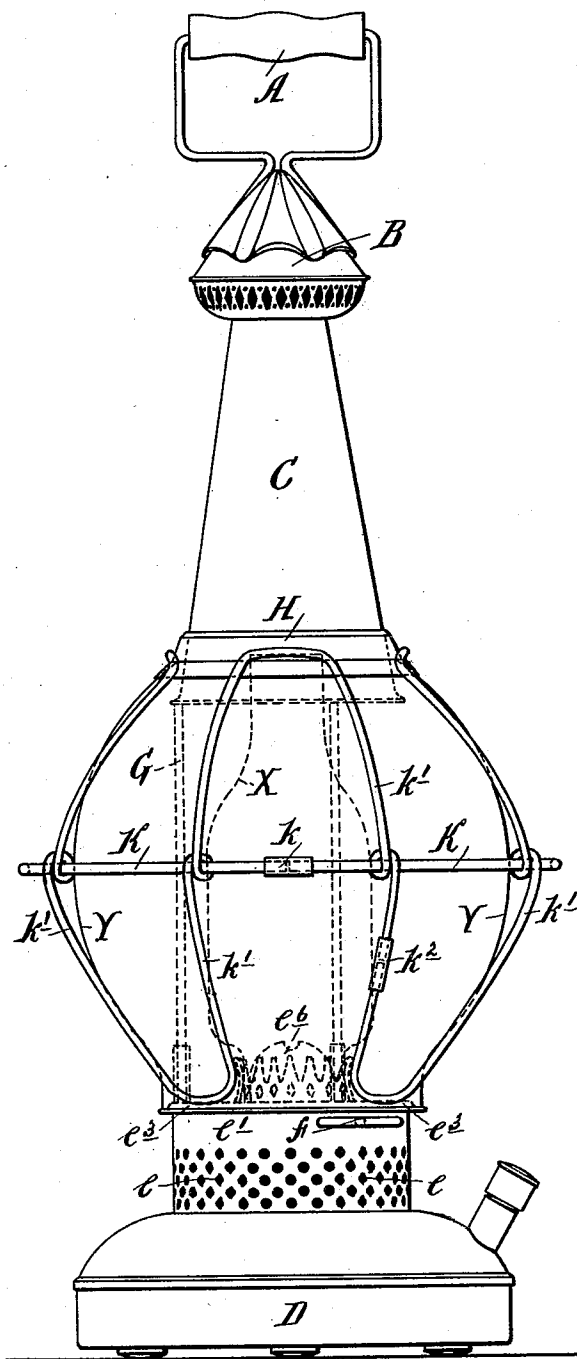
2 Sheets—Sheet 1.

J. T. & J. PAUL.
LANTERN.

No. 507,838.

Patented Oct. 31, 1893.

Fig. 1.



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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

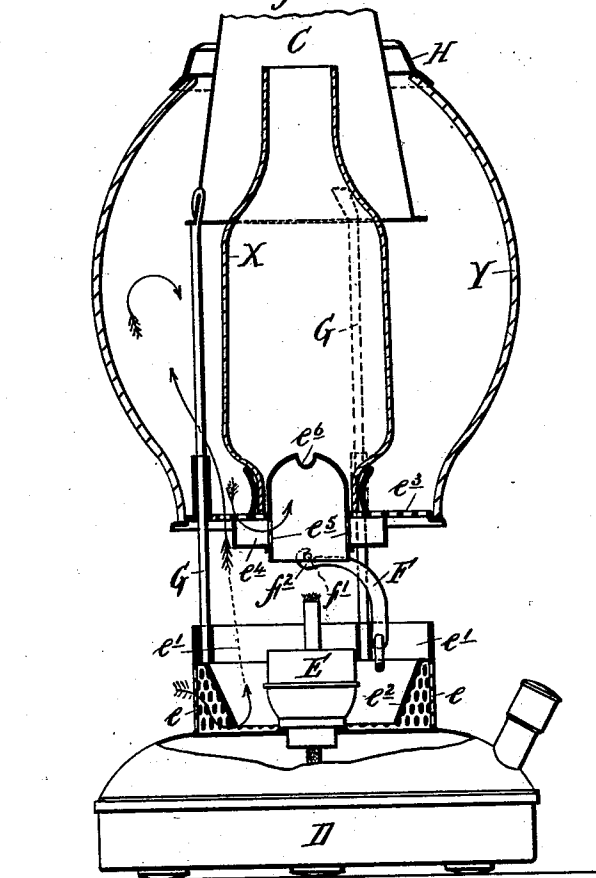


Fig. 3.

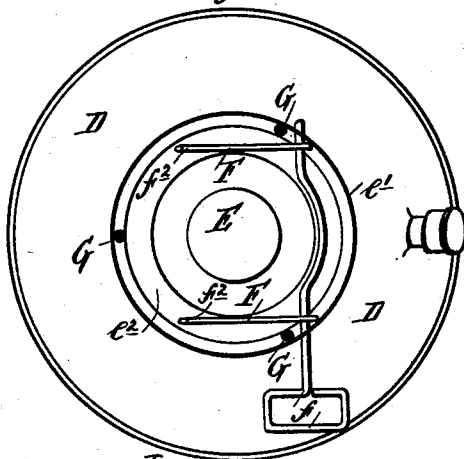


Fig. 4.

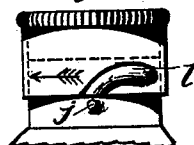
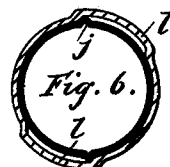


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN THOMSON PAUL AND JAMES PAUL, OF EDINBURGH, SCOTLAND.

LANTERN.

SPECIFICATION forming part of Letters Patent No. 507,838, dated October 31, 1893.

Application filed March 31, 1892. Serial No. 427,240. (No model.) Patented in England February 13, 1892, No. 2,842, and in Canada September 3, 1892, No. 40,215.

To all whom it may concern:

Be it known that we, JOHN THOMSON PAUL and JAMES PAUL, lamp and lantern manufacturers, both of Grove Works, Brandfield Street, Fountainbridge, Edinburgh, in the county of Mid-Lothian, Scotland, have invented Improvements in Lanterns, (for which we have obtained Letters Patent in Great Britain, No. 2,842, dated February 13, 1892, and in Canada, No. 40,215, dated September 3, 1892,) of which the following is a specification.

This invention relates to improvements in storm or other lanterns, lamps, stoves and the like.

15 The invention is more particularly applicable to storm lanterns, and has for its object to obtain a very steady flame under all conditions of wind and to obtain other advantages.

20 In the accompanying drawings, Figure 1 is an elevation of a storm lantern constructed in accordance with our invention. Fig. 2 is a part sectional elevation of the same, and Fig. 3 is a plan of the lower part of the lantern. 25 Figs. 4 to 6 inclusive are details of our said invention.

The lantern consists of a carrying handle A, cowl B, cone C, oil fount D, and burner E, glass chimney X and glass globe Y protected 30 by a wire guard, as shown.

The necessary air for combustion finds its way to the burner through the perforations e in the casing e' . Inside the said casing is a wind guard e^2 , shown more particularly in Fig. 35 2. This figure shows the top of the burner lifted up by levers in accordance with a part of our invention hereinafter referred to.

The air ascends from under the lower edge of the said guard, as shown by the arrow in 40 Fig. 2, fills the space below and around the burner and passes through the perforated ventilator plate or globe holder e^3 , as indicated by the arrow, Fig. 2, the said plate e^3 being shut down upon the top of the casing e' when the lamp is in use as shown in Fig. 45 1. The air ascends through a portion only of the said ventilator plate e^3 , that is to say, it passes through the holes at the outer edge of the plate, fills the space between the chimney and the globe, gets heated there and then descends through the same plate by means of the inner holes of the plate into the

chamber e^4 formed below the ventilator plate, the air finally escaping through the perforations e^5 of the burner, as indicated by the arrow, up to and around the flame which burns 55 through the ordinary dome e^6 of the burner. By this arrangement of supplying air steadiness of the flame is insured as any gusts of air, when the lamp is used for outside purposes for example, are completely broken by the aforesaid system of leading the air and a steady flow of air heated by the chimney being supplied below the burner. 60

The arrangement for raising the ventilator 65 plate or globe holder e^3 , as shown more particularly in Figs. 2 and 3, consists of levers F operated by the handle f as hereinafter more particularly described. The top of the lamp when thus raised and lowered from and to the 70 lower part of the lantern is guided by the rods or uprights G, the said rods being the means by which the cone C with its cowl and handle is supported from the lower part of the lantern. By raising the ventilator plate 75 or globe holder, as shown more particularly in Fig. 2, the wick can be quickly and easily lighted and extinguished and trimmed or the burner cleaned and there is entire safety from explosions when extinguishing the flame. 80 There is also no liability of the lantern to upset when being lighted or extinguished.

The top of the globe may be provided with a tippet H so as to retain the heat between 85 the chimney and the globe.

The globe is protected from breakage by the wire guard which forms another part of our said invention. The said guard is constructed of an arrangement of bent wire as shown in Fig. 1 and is such that it can be 90 sprung or expanded over the globe and taken off in a similar manner, the said guard being thus self adjusting and can be readily put on or taken off. The guard may be constructed as shown in the drawings, of a hoop or wire 95 K, which is jointed at k , surrounding the circumference of the globe and the legs k' which clasp the side of the globe may also be formed of one length of twisted wire, k^2 being the joint of the wire. We do not limit ourselves 100 to the said precise mode of constructing the globe protector as there are various other obvious ways of twisting or bending the wires to produce the same result, that is to say, a

wire protector that is self adjusting upon the globe and does not require support or attachment to any part of the lantern.

It will be seen that in accordance with our said invention when the lantern has to be lighted all that has to be done is to operate the levers when the ventilator plate carrying with it the burner cap, the chimney and the globe is raised up clear from the wick, and thus allows the wick to be got at without the slightest trouble.

As shown in Figs. 2 and 3, the appliance for elevating the ventilator plate e^3 consists of the levers F operated by the handle f . The ventilator plate is provided with two opposite pins f' against which the levers bear. Owing to the formation of the arms of the levers and the position of the pins, the ventilator plate is always elevated vertically as the arms are always bearing at the same vertical line so that there is no liability of the ventilator plate to be tilted from its vertical travel. The ends of the levers are provided with catches f^2 which act as checks against the pins f' and satisfactorily hold the ventilator plate in its elevated position it being readily perceived that when the pins f' are in the catch portions f^2 of the levers, the ventilator plate is fully open. In the plan Fig. 3 the ventilator plate is not shown and consequently the pins f' are not shown. Also in this figure the levers F are shown down.

A further part of our said invention relates to an improved feeder cap for the oil fount. As shown open in Fig. 4, closed in Fig. 5, and in section Fig. 6, the cap is made to fit over the neck of the tank aperture without the necessity of any screw, and we employ a peculiar kind of bayonet joint consisting of a pin or projection j , which takes into the curved recess l , formed in the side of the cap. The same formation being at opposite sides of the cap as shown in Fig. 6, all that is necessary to do is to press on the feeder cap and at the same time give it a turn when the mouth of the recess will take on to the projection j , and by continuing to turn the cap it will be forced down tight over the mouth of the feeder, owing to the sloping or curved formation of the recess l , until the projection j is locked at the end of the recess owing to the particular formation of the end of the recess, the piece of cork or other material with which the under side of the top of the cap is lined, assisting in keeping the cap tight and locked.

The hereinbefore described various arrangements of our said invention may be altered in many ways without departing from the essential features of our said invention.

Our said improvements are applicable to all kinds of lanterns, lamps, or stoves, and they are also in part applicable to either oil or gas; the wire protector for example is equally applicable for any globe whether surrounding an oil or gas flame or other light.

I claim—

1. In a lantern, of the character described,

the combination of the burner, the chimney, the globe surrounding the chimney whereby an air chamber is formed between them, the perforated casing e' below the said chamber, a ventilator plate e^3 located upon the top of said casing, and the wind guard inside of said casing—these parts being arranged and constructed for joint operation substantially as and for the purposes hereinbefore set forth.

2. In a lantern, the combination of the burner, the chimney, a globe surrounding the chimney whereby an air chamber is formed between them, the perforated casing e' below said chamber, a ventilator plate e^3 located upon the top of said casing, the wind guard located inside of said casing as described a partition of smaller diameter than the casing e' forming an air chamber e^4 communicating with the inside of the wind guard to the air chamber surrounding the chimney, and an air passage way from said air chamber to the burner, substantially as described.

3. The combination in a lantern of a base portion, a cone, guide rods secured to said base and cone thereby binding them together; a ventilator plate resting upon said base portion, a chimney supported upon said ventilator plate, and a burner, said chimney and ventilator plate being adapted to be moved together up and down upon said guide rods by a crank arm, substantially as described.

4. The combination in a lantern, of a burner, a cone, guide rods secured to the base of the lantern, and to said cone upon their upper free ends, thereby binding said cone and base together; a ventilator plate and a chimney resting upon said plate—said plate and chimney being adapted to be moved together vertically upon said guide rods by a crank arm.

5. The combination in a lantern of a burner, a globe, a chimney, a ventilator plate upon which rests said globe and chimney and guide rods secured to the base of the lantern, and to said cone upon which the said plate, globe and chimney are moved together by a crank arm, substantially as hereinbefore set forth.

6. In a lantern, the combination of the burner and the chimney, the chamber surrounding the chimney, the perforated casing e' , the wind guard inside of this casing, the perforated plate e^3 between the space inside of the wind guard and the said chamber, the perforated dome surrounding the burner, and the chamber e^4 forming an air passage between the said surrounding chamber and the perforations in the burner dome, substantially as described.

7. In a lantern, the combination of the burner and the chimney, the vertically movable plate carrying these parts, the pins f' carried by the said plate, and the levers F having loose engagement with the said pins, and provided at their ends with the catch projections f^2 which engage with the pins when the plate has been raised to the extent of its vertical movement, substantially as described.

8. A self-adjusting detachable globe protector for a lantern consisting of a central hoop or wire K, and a single piece of wire twisted at intervals around the said hook or wire and bent to form the legs *k'* extending both above and below the said centrally arranged hoop or wire, substantially as described.

9. In a lantern, the combination of the base portion, the burner, the chimney, the globe surrounding the chimney the perforated casing *e'* the ventilator plate *e³* located upon the top of said casing, the wind guard inside of said casing, a cone, and the guide rods, securing said cone and base portion together, said ventilator plate, chimney and globe being adapted to slide together upon said guide rods, substantially as set forth.

10. In a lantern, the combination of the

base portion, the chimney, the globe, the perforated casing, the ventilator plate, the wind guard inside of said casing, the partition of smaller diameter than the said casing, a cone, and the guide rods securing said cone and base together, said ventilator plate globe, and chimney being free to move together upon said guide rods substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN THOMSON PAUL.
JAMES PAUL.

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