

G. HILLEGASS.  
Lamp-Burner.

No. 203,043.

Patented April 30, 1878.

Fig. 1.

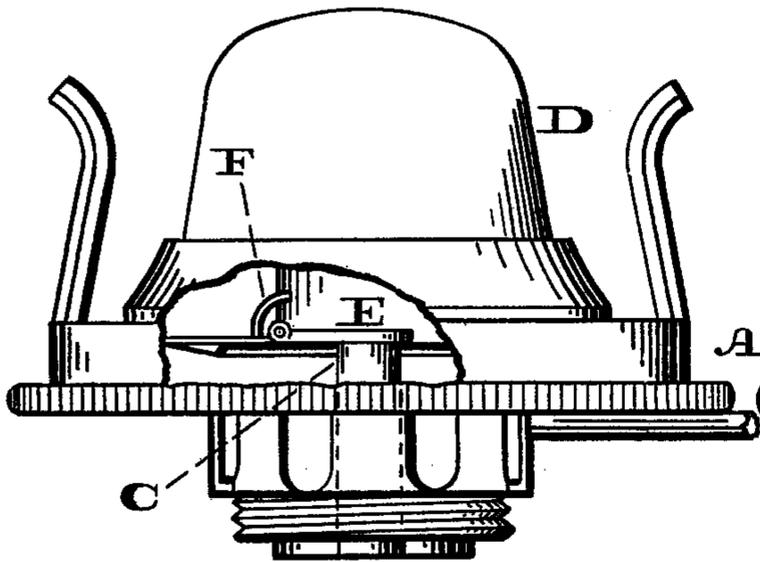


Fig. 2.

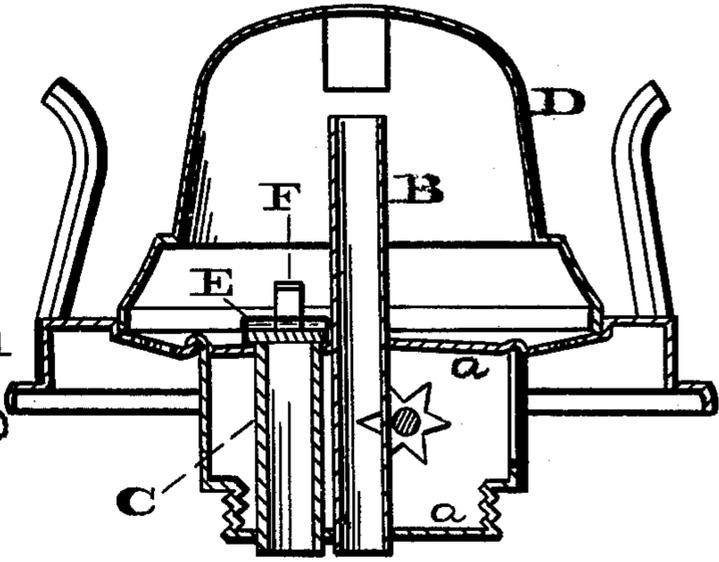
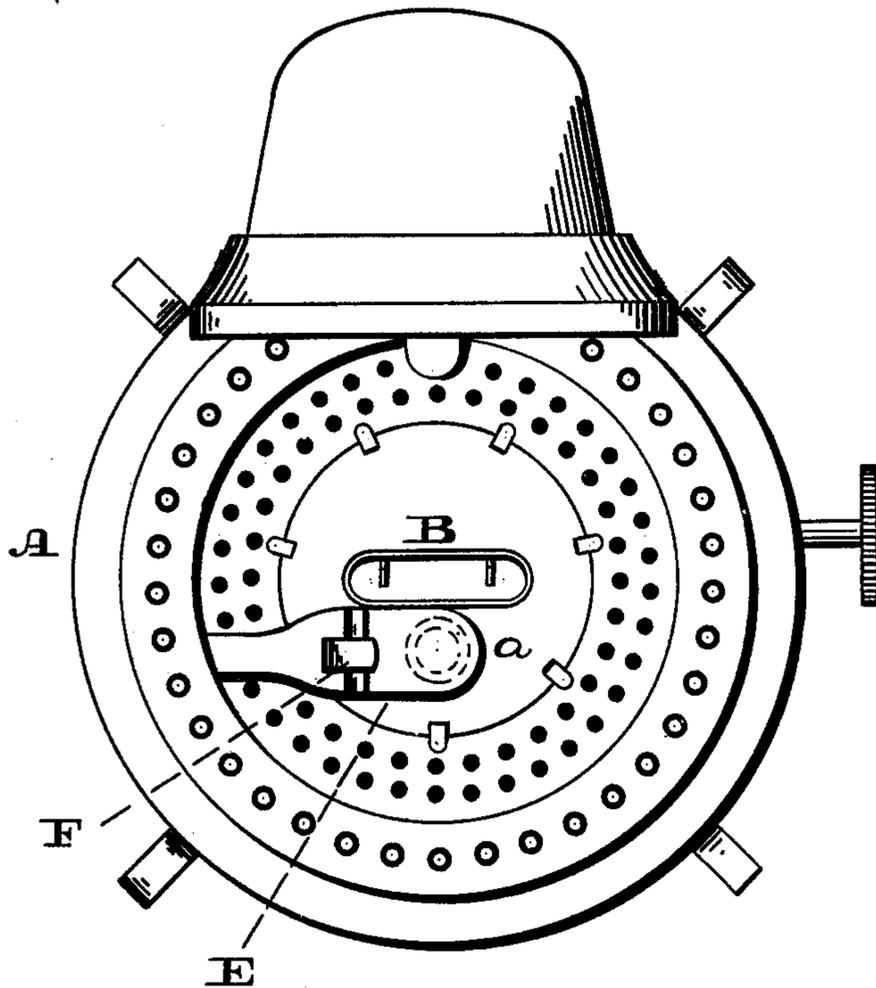


Fig. 3.



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# UNITED STATES PATENT OFFICE.

GEORGE HILLEGASS, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. 203,043, dated April 30, 1878; application filed June 4, 1877.

*To all whom it may concern:*

Be it known that I, GEORGE HILLEGASS, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Safety Attachments to Lamp-Burners, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side view, partly broken away, of a burner having my invention applied thereto. Fig. 2 is a central vertical section thereof. Fig. 3 is a top view, the cone being open.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to an attachment to the burner of a lamp or illuminating apparatus employing highly-inflammable or explosive oil, whereby, in the event of the ignition or heating of the vapor in the reservoir, a ready outlet for the generated gas is provided, thus preventing explosion, and the light will be extinguished, whereby an additional safeguard is provided. For this purpose I employ a short tube, which, connected to the burner, projects into the reservoir above the level of the oil, and has its top covered by an automatically-opening valve.

Combined with the above is an overhanging stop, which limits the rising motion of the valve and causes quick closing thereof, and prevents further possibility of explosion. By this provision, also, the valve cannot remain open.

Referring to the drawings, A represents the burner of a lamp or illuminating apparatus, which may be of any desired form and construction. B represents the wick-tube, and through the plates *a a*, which support it, there is passed a short tube, C, which opens above and below said plates, so that when the burner is in position on the reservoir the said tube C forms a communication between the reservoir and the space within the cone D. E represents a valve or valvular plate, which is hinged to the upper plate *a*, or adjacent plate or portion of the burner, and it is so located as to rest directly on the upper end of the tube C and close the same.

In order to limit the upward or opening movement of the valve and prevent its dis-

placement, there is secured to the burner or the fixed leaf of the valve an overhanging arm or stop, F, which is so constructed and located as to permit only a limited rising motion of the valve and cause quick closing thereof, the valve being prevented from remaining open, without, however, interfering with the proper operation thereof. The short tube C projects below the lower plate *a* to such extent only that its bottom edge will be above the level of the illuminating-fluid, and uncovered; and said bottom plate *a* closes the base of the burner, whereby gas generated in the reservoir cannot pass above said bottom plate except through the tube C.

It will be seen that, should the vapors in the reservoir become ignited or highly heated, the dangerous gas generated thereby will immediately find an outlet through the tube C, and, lifting the valve E, it is rapidly injected into the space of the cone D, the sudden puff or impulse of which extinguishes the light, whereby explosion is prevented both prior and subsequent to the injection of the gas into the cone; and a lamp otherwise dangerous may be carried and handled with safety, and there is no danger even in the case of overturning or falling of the lamp, or the breakage or fracture of the reservoir.

The valve E, closing the top of the tube C, prevents the descent of flame to the reservoir and the ascent of vapor from the reservoir, unless the volume of gas generated therein is sufficient to overcome the weight of the valve, the result of which has already been set forth.

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

A lamp or other burner provided with a wick-tube, B, and having a gas-escape tube, C, arranged in the neck thereof, with its lower end opening above the surface of the illuminating-fluid in the reservoir, in combination with a valve, E, and the overhanging stop F, substantially as described.

GEORGE HILLEGASS.

Witnesses:

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