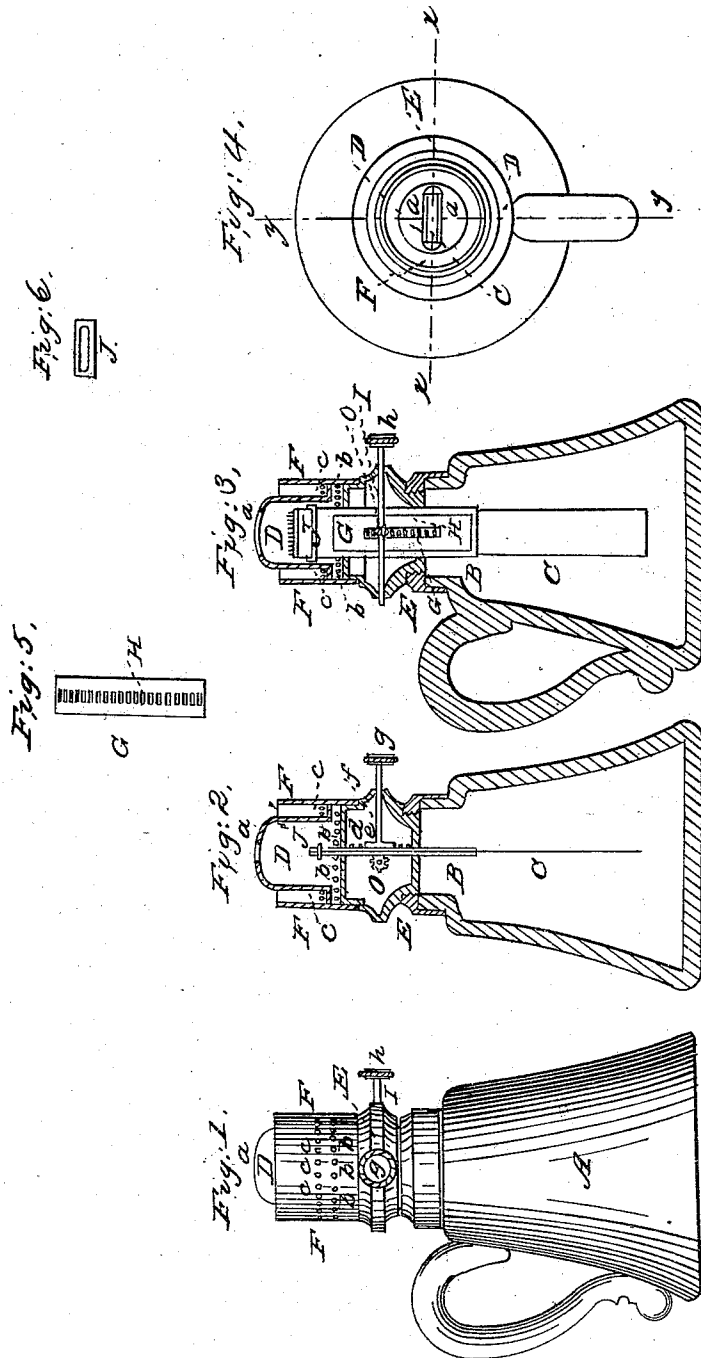


# HALE & CHANDLER.

## Lamp.

No. 23,085.

Patented March 1, 1859.



Witnesses:

David C. Hale  
Jas. H. Chandler  
Augustus Luke.

Inventor.  
Elias J. Hale  
Charles H. Chandler

# UNITED STATES PATENT OFFICE.

E. J. HALE AND C. H. CHANDLER, OF FOXCROFT, MAINE.

## LAMP.

Specification of Letters Patent No. 23,085, dated March 1, 1859.

*To all whom it may concern:*

Be it known that we, ELIAS J. HALE and CHARLES H. CHANDLER, both of Foxcroft, in the county of Piscataquis and State of Maine, have invented an Improvement on Lamps; and we do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 is a side elevation. Figs. 2 and 3 are central and vertical sections taken on lines H and Y of Fig. 4. Fig. 4 is a top view of the lamp. Fig. 5 is a view of the movable plate. Fig. 6 is a view of the flange or collar.

The nature of the said invention consists of a movable plate within the wick tube with spurs attached to the upper end which enter the wick this plate being punched with a series of holes the entire length for the cogs of a small pinion to enter which being turned raises or lowers the plate and as the plate is attached to the wick the wick is raised or lowered as the plate is raised or lowered. Also a flange or collar at or nearly the top of the wick tube for the purpose of equalizing the aerial current as it passes upward toward the flame.

In carrying out our invention the plate is placed on the wick about one inch from the top end of the wick then placed within the wick tube, when the plate comes in contact with the pinion, it is to be raised until the top of the wick is sufficiently above the top of the wick tube to give the amount of flame desired. The flange is placed at or near the top of the wick tube for the purpose aforesaid.

In the drawings A denotes the body or reservoir of the lamp, B the wick tube, C the wick, D the solar cap arranged around that part of the wick tube which projects above the screw cap E.

The solar cap D is provided with an elongated orifice or slot *a* in its upper part, the said cap being made in form of a bell or sewing thimble, and secured to and within a tube F which is fixed to the cap E by a bayonet connection, or by any other suitable means. The tube F contains two series or ranges of air holes as shown at *b*, *b*, *b*,

*c*, *c*, *c*, the lower series being arranged below the solar cap and so as to allow air to pass into the interior of said cap, the upper set of holes is arranged above the lower part of the cap and so that air may pass through them and circulate against the outside of the solar cap and pass up into a glass chimney when placed within and supported by the tube F and made to extend above the solar cap and to hold the chimney. The wick tube plays freely in a longitudinal direction within the solar cap and is operated by a rack *d* and the eccentric *e*, the same eccentric or cam being placed upon an arbor *f* carrying a milled head *g*.

G is the plate, H the punched holes which serve as a rack, I the pinion, *h* the milled head for operating the pinion *o*, J the flange.

Our invention although simple accomplishes very important results, as it enables a flat wick to be always raised with certainty and uniformity and as the flange causes the upward current of air to strike the flame with more uniformity it consequently makes the flame more even and uniform, both desideratums long sought for but seldom or never attained before the date of our invention to any such degree of practicable advantage as effected by our improvement.

We do not claim a wick holder operated by a rack and pinion and serving to hold or carry a wick as shown in the United States Patent, No. 14,248, but

What we do claim is our improved rack wick holder as constructed and applied to

1. The wick and the spur wheel so that the teeth of the latter may pass through the rack and act on both the rack and the wick at one and the same time.

2. The flange or collar, J, for the purpose of equalizing the aerial current as it strikes the flame of the wick.

In testimony whereof we have hereunto set our signatures.

ELIAS J. HALE.

CHARLES H. CHANDLER.

Witnesses:

EMILY C. HALE,

SARAH W. CHANDLER,

AUGUSTUS G. LEBROKE.