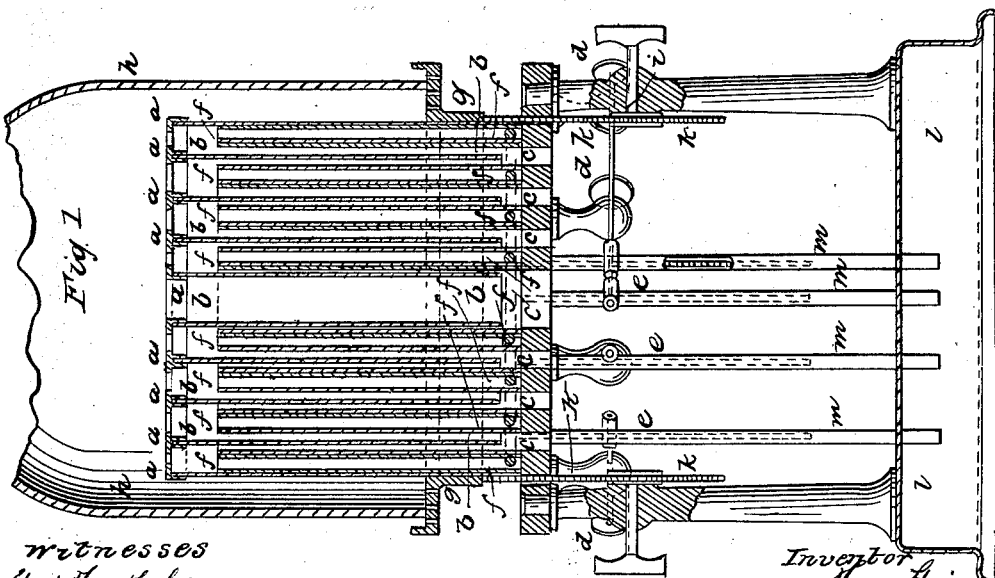
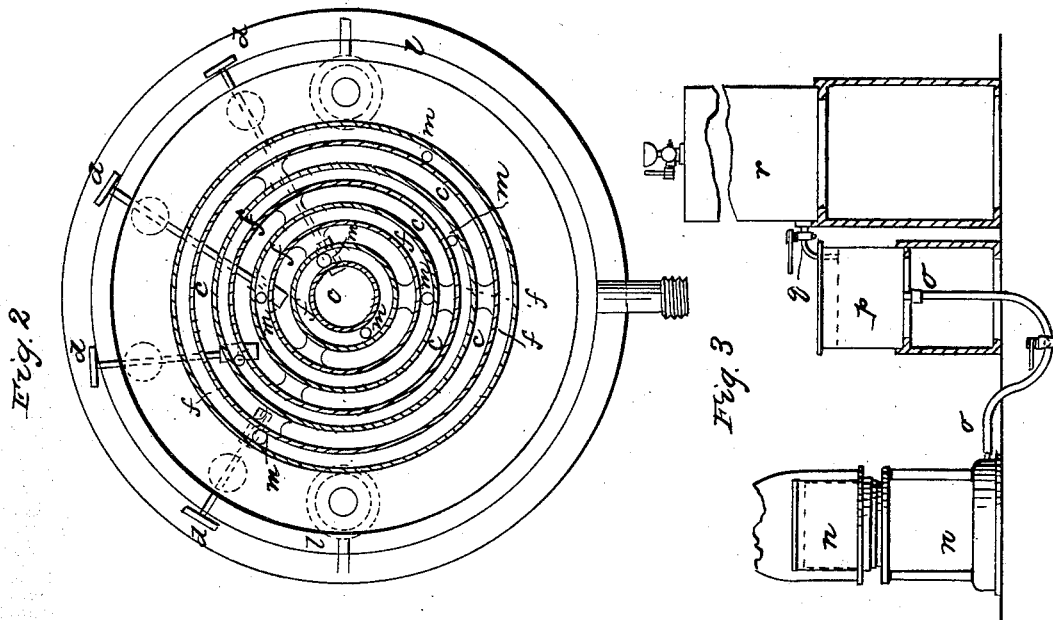


H. H. DOTY.

Lamp.

No. 109,303.

Patented Nov. 15, 1870.



Witnesses  
Edward Thomas Doyle  
Henry Rogers

Inventor  
Henry Thomas Doyle  
By his Attorney

# UNITED STATES PATENT OFFICE.

HENRY HARRISON DOTY, OF LONDON, ENGLAND.

IMPROVEMENT IN APPARATUS FOR BURNING PARAFFINE AND OTHER HYDROCARBON OILS.

Specification forming part of Letters Patent No. 109,303, dated November 15, 1870.

*To all whom it may concern:*

Be it known that I, HENRY HARRISON DOTY, of London, in the Kingdom of England, have invented new and useful Improvements in Means or Apparatus for Producing the more Complete Combustion of Paraffine and other Hydrocarbon Oils; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention relates to a lamp for producing the more complete combustion of paraffine and other hydrocarbon oils; and consists in combining air-conducting cylinders with the wick-holder, and with a receptacle for oil, and brackets for the support of the chimney, rack, and pinions for operating the wick-holder and chimney-bracket.

A series of tubes or cylinders of different diameters, corresponding with the number of burners, are arranged vertically, one within the other, and uniformly brazed or soldered at the lower end to a plate or disk in such manner as to leave alternate air and cotton or wick spaces, the said air-spaces being continued through the plate or disk, and having a second series of movable tubes or cylinders passing through them, on the top of which are placed the flanged rings for projecting the air into the flame, the said cylinders and flanges being raised and lowered by a screw and pinion, or any other well-known means. These said cylinders have ribs either on the outside or inside, (or both,) for dividing the air-spaces into equal parts; and the interior cylinders and flanged rings may be dispensed with when required.

A bracket for carrying the chimney, also raised and lowered by rack and pinion, encircles and may be fastened to the outer cylinder, so that both the bracket and cylinder may be raised and lowered together, if required, the said bracket having perforations for the admission of air to the outside of the flame.

The burners and disk are supported on columns, or otherwise, resting on a receptacle for containing a supply of oil, the commu-

nication therefrom to the burners being through small tubes, some of which may contain the racks for raising and lowering the said burners.

The receptacle above mentioned communicates with a receiver by means of a copper or other tube, having a cock at its lowest part for emptying it of its contents when required, which said tube may be carried under the lenses of a light-house, (when used for that purpose,) so that both the receiver and the air-tight reservoir, from which the receiver is supplied, may be placed outside the lenses.

The said receiver is placed at a convenient height for the plentiful supply of oil to the burners, and is self-regulated by means of a cock in the air-tight reservoir, so that, as soon as the oil in the receiver reaches the mouth of the cock, the flow ceases, there being no pressure of air on the top of the liquid in the reservoir, to which the oil is fed by means of a suitable cock placed thereon.

In order that my invention may be clearly understood, I will describe the same with reference to the accompanying drawings, in which—

Figure 1 is a section through the center of the lamp; Fig. 2, a plan of the said lamp; and Fig. 3, the general arrangement of the lamp, receiver, and reservoir.

*a* are the flanged rings for guiding the air to the flame, the said rings being supported on the cylinders *b*, which have ribs on one or both sides of them, for dividing the air-spaces *c* into equal parts, as shown in Fig. 1. *d* are the pinions, and *e* the racks for raising and lowering the wick-holders *f*. *g* is the perforated bracket for carrying the chimney *h*, which is raised and lowered by the pinion *i* and rack *k*. *l* is the receptacle communicating with the wick-spaces by the tubes *m*.

In Fig. 3, *n* is the lamp; *o*, the copper or other tube communicating with the receiver *p*, which is supplied, by means of the cock *q*, from the receiver *r*.

Having now described the nature and particulars of my said invention, what I claim is—

The herein-described apparatus for burn-

ing hydrocarbon oils, consisting of the wick-holder *f*, cylinders *b*, receptacle *l*, communicating-tubes *m*, the chimney-bracket *h*, and pinions and racks *d* and *e* and *i* and *k*, respectively, operating the wick-holders and chimney-bracket, the whole combined and arranged in the manner and for the purpose specified.

Done at London, England, this 27th day of July, 1868.

HENRY HARRISON DOTY.

Witnesses:

EDWARD THOMAS HUGHES,  
123 Chancery Lane, London.

HENRY ROGEN,  
123 Chancery Lane, London.