

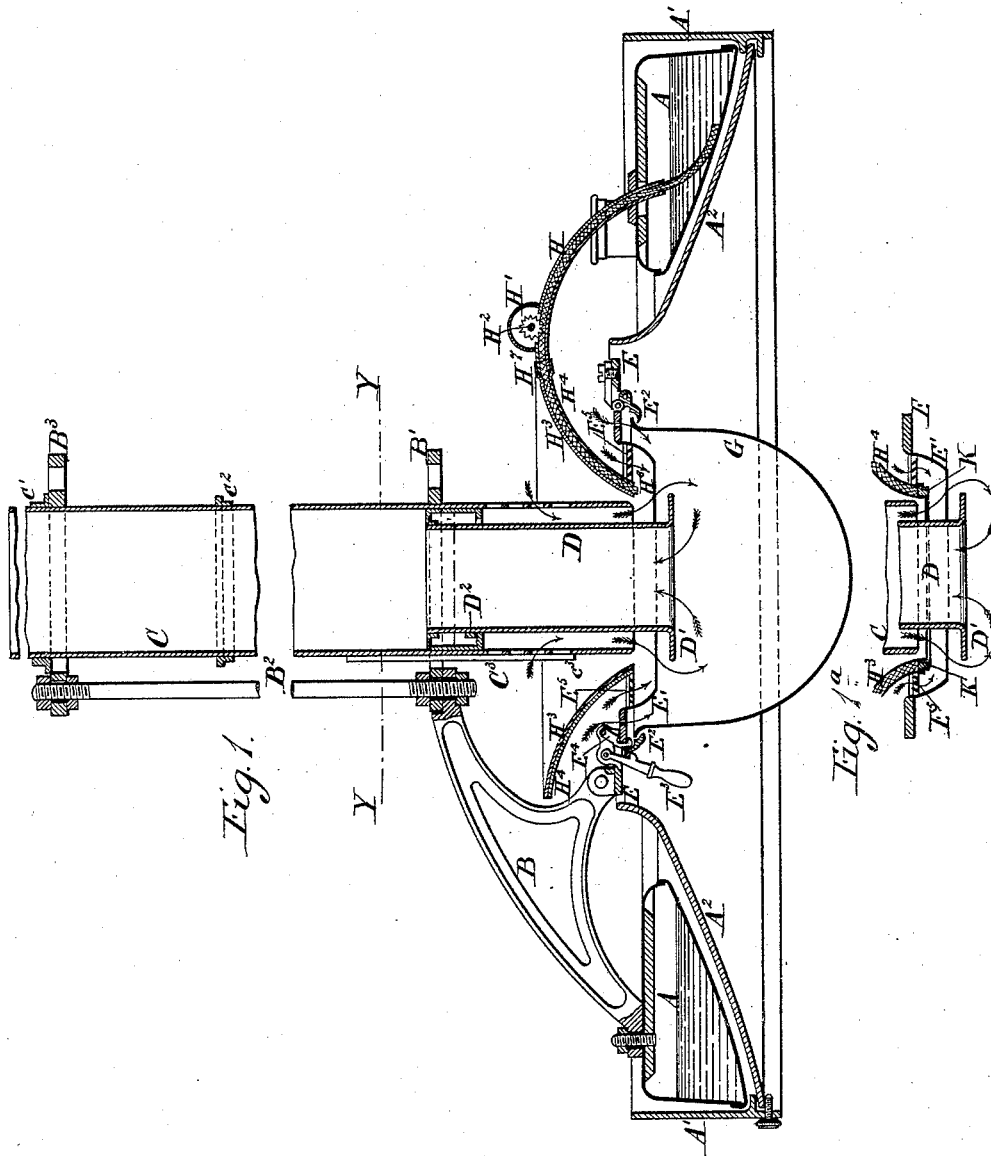
(No Model.)

2 Sheets—Sheet 1.

J. H. ROSS & E. E. ATKINS.
OVERHEAD OIL LAMP.

No. 422,836.

Patented Mar. 4, 1890.



Witnesses:
J. A. Rutherford.
Leroy B. Hills.

Inventors:
John Howard Ross.
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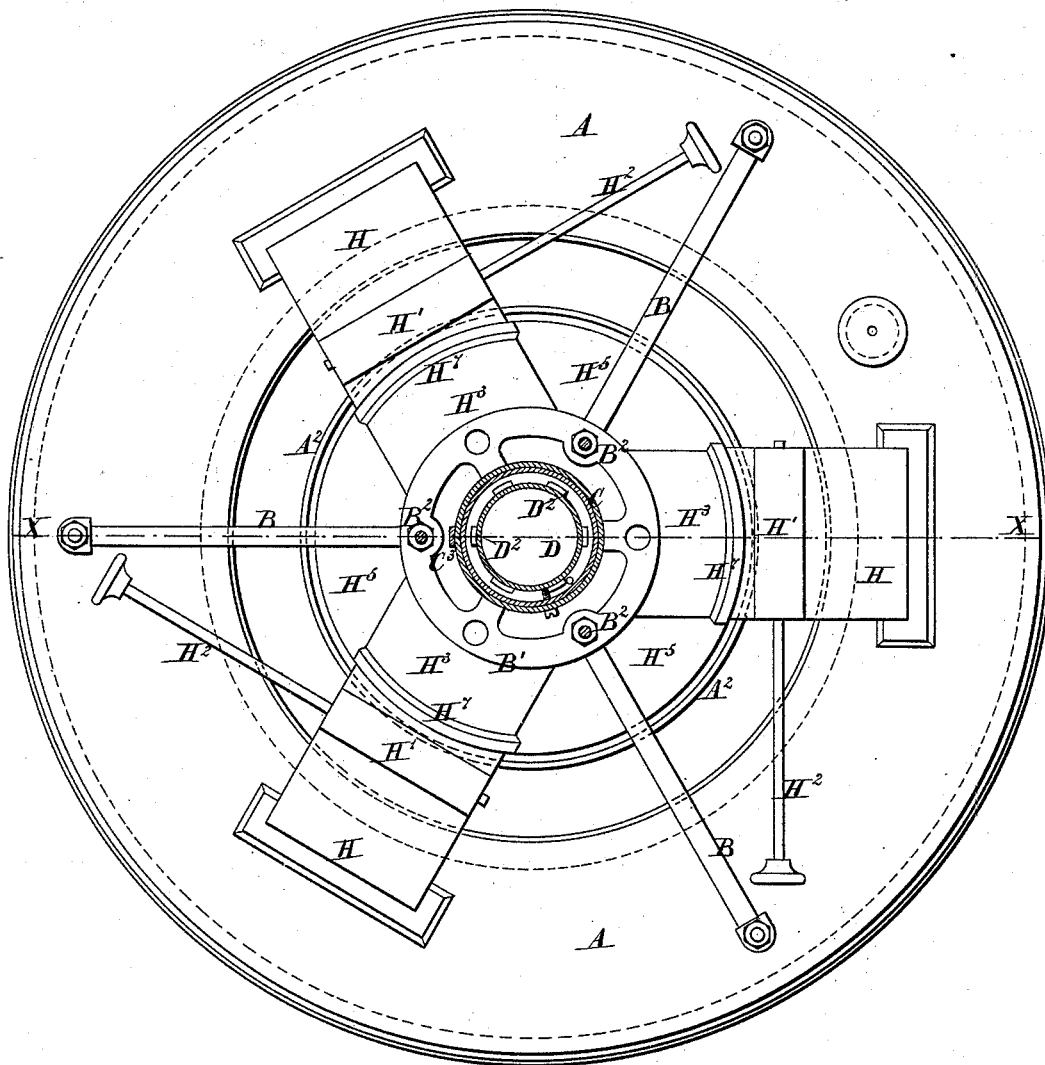
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Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN H. ROSS AND EDWARD E. ATKINS, OF BIRMINGHAM, COUNTY OF WARWICK, ENGLAND.

OVERHEAD OIL-LAMP.

SPECIFICATION forming part of Letters Patent No. 422,836, dated March 4, 1890.

Application filed October 3, 1889. Serial No. 325,900. (No model.) Patented in England February 5, 1889, No. 2,019; in France September 23, 1889, No. 200,917; in Belgium September 23, 1889, No. 87,824, and in Italy October 12, 1889, LI, 355.

To all whom it may concern:

Be it known that we, JOHN HOWARD ROSS and EDWARD ELIJAH ATKINS, citizens of England, both residing at 171 Hockley Hill, Birmingham, in the county of Warwick, England, have invented new and useful Improvements in Overhead Oil-Lamps, (for which we have obtained patents in France, dated September 23, 1889, No. 200,917; in Belgium, dated September 23, 1889, No. 87,824; in Italy, dated October 12, 1889, Vol. LI, No. 355, and in Great Britain by an application for Letters Patent, which patent, when granted, will bear date February 5, 1889, No. 2,019,) of which the following is a specification.

This invention relates to the construction of an oil-lamp in such a manner that, its flame being directed downward from the body of the lamp without any part of the structure except glass below it, there is no shadow cast beneath. Such lamps are therefore especially adapted for pendent lights or for lights for ceilings of apartments or carriages.

We shall describe the construction of lamp according to our invention, referring to the accompanying drawings.

Figure 1 is a vertical section on the line X X of Fig. 2, which is a plan on Y Y of Fig. 1. Fig. 1^a is a part section showing a modification of the wick.

A is the annular oil-reservoir, which is concealed within a ring A', that may be ornamented as desired, and a reflector A². There is free passage for air around the reservoir A, so as to keep its contents cool.

To the top of the reservoir A are fixed three brackets B, which carry a ring B', and from this ring three bolts B² extend upward and carry an upper ring B³.

C is the chimney, which is a metal tube having fixed on it two rings C' C² and a projecting bar C³.

In use the ring C' of the chimney rests on B³; but the chimney can be raised by hand as far as is permitted by the ring C² meeting B³. When it is so raised, the projecting bar C³ slides through a notch of the ring B', and when the chimney is raised so far that the lower end c³ of the bar C³ is just above the

ring B', on turning the chimney partly round, the end c³, resting on the ring B', supports the chimney in its raised position until, on turning the chimney backward so that c³ enters the notch of B', the chimney can be lowered to the position shown in Fig. 1. Within the lower part of the chimney, which is perforated, is fitted a cylinder D, of ceramic or such like refractory material, preferably having at its lower end a projecting lip or flange D', and having near its upper end three projecting studs D².

In introducing the cylinder D into the chimney C the studs D² pass through notches in a ring projecting inwardly from the chimney, and then on turning D partly round its studs D² rest on the chimney-ring, and thus the cylinder D is supported. In order to prevent D from turning accidentally back so as to bring its studs D² into coincidence with the notches, and so allow D to drop, a small setting-screw is screwed through the wall of the chimney C to prevent movement of one of the studs D².

The brackets B carry a horizontal ring E, to which at one side are separately hinged a deflecting-ring E' and a bezel E² for carrying the glass globe G. At the side of the ring E opposite to the hinges there is pivoted on E a small handle E³, which in the position shown in Fig. 1 holds up the bezel E². On withdrawing E³ the bezel E² and the glass G which it carries can be turned down, and then a catch E⁴, which holds up the deflector-ring E', can be withdrawn, allowing E' also to be turned down. Thus free access can be got to the wicks for trimming. Between the deflector-ring E' and the wick-holder there are fixed several concentric rings E⁵ of louver form, between which air can enter. The obliquity of these rings prevents the heat of the flame from radiating directly on the wick-holder. There are also through the upper part of the deflector E' a number of small holes or slits for admission of air into the interior of the glass G. The rings E⁵ are secured to the conoidal disk H⁴.

From the reservoir A three curved tubes H, of flat rectangular section, radiate toward the center, each tube containing a wick, and hav-

ing at H' toothed wheels on a spindle H², which can be turned by hand for advancing or retracting the wick. At the point H' the wick-tube is united by soldering or otherwise to the edges of two conoidal disks H³ and H⁴, which are stamped in dies to such shape that parts of them form continuations of the three wick-tubes H, while in the intermediate parts H⁵ between these continuations the two thicknesses of metal are close together. The conoidal disks H³ H⁴ are supported by the tubes H, which in turn are supported by the cover of the oil-reservoir. At the inner edge H⁶ of the two disks they present a complete annular opening occupied by the three wicks, which at this place meet each other, so that together they constitute a complete circular wick, presenting its end at H⁶. The wicks being adjusted and trimmed, the deflector E' and globe G being fixed up, the chimney C is drawn up as far as permitted by the ring C², and thus free access from above is given to the wicks, which can then be lighted. When they are lighted, the chimney C is lowered to its working position, and then air entering through the perforations of E³ and through those at the lower part of the chimney C supplies the flame, which is directed first downward past the flange D', then inward and up the cylinder D, presenting below the appearance of a rosette of light. The cylinder D soon becomes highly heated, so that the air entering by the perforations of the chimney and impinging on D is heated before reaching the interior of the flame, which is thus made to burn with great brilliancy.

In order to avoid the necessity for frequent trimming of the wicks, the modification shown by Fig. 1^a may be adopted. In this case a ring K, made of asbestos fiber, or, it may be, of porous mineral, against which the ends of the wicks abut, is attached to the wick-holder. The oil supplied by the wicks soaks through the ring K, which thus forms the effective annular wick from which the flame starts. When it is desired to extinguish the lamp, it is only necessary to draw the wicks back from contact with K, so that this is no longer supplied with oil.

Although we have shown three wick-tubes converging from the reservoir A toward the chimney, obviously there might be a greater number of such tubes, as well as of the brackets B and bolts B². The lamp, as shown in

the drawings, with its chimney exposed, is adapted for being suspended from a ceiling or bracket within an apartment where it is sheltered. When such a lamp is employed in an exposed position, it has necessarily to be inclosed in a lantern or other suitable casing to protect it from wind or wet. When the lamp is employed for lighting a railway or other carriage, all the upper part of the lamp above the reflector A² has to be inclosed in a casing provided with suitably-guarded inlets for air and outlets for products of combustion, such as are used generally for railway-carriage lamps. In another application, Serial No. 325,901, of even date herewith, we have shown a lamp of similar construction to this, but having converging groups of round wicks instead of the flat wicks herein described.

Having thus described the nature of our invention and the best means we know for carrying the same into practical effect, we claim—

1. An overhead oil-lamp consisting of an annular oil-reservoir provided with converging brackets B, a central chimney supported by said brackets, a refractory cylinder supported within the lower part of the chimney, three or more curved wick-tubes supported by the oil-reservoir and converging toward the base of the chimney, at which point the wicks form a circle with their ends presented downward outside the chimney to the ring E, supported by the bracket, a globe suspended from said ring, and an air-deflector surrounding the circular wick, substantially as shown and described.

2. In combination with the chimney C, having its stop-rings C' and C² and its bar C³, the rings B' B³, bolts B², and supporting-brackets B, substantially as and for the purpose set forth.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

J. H. ROSS.
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