

(No Model.)

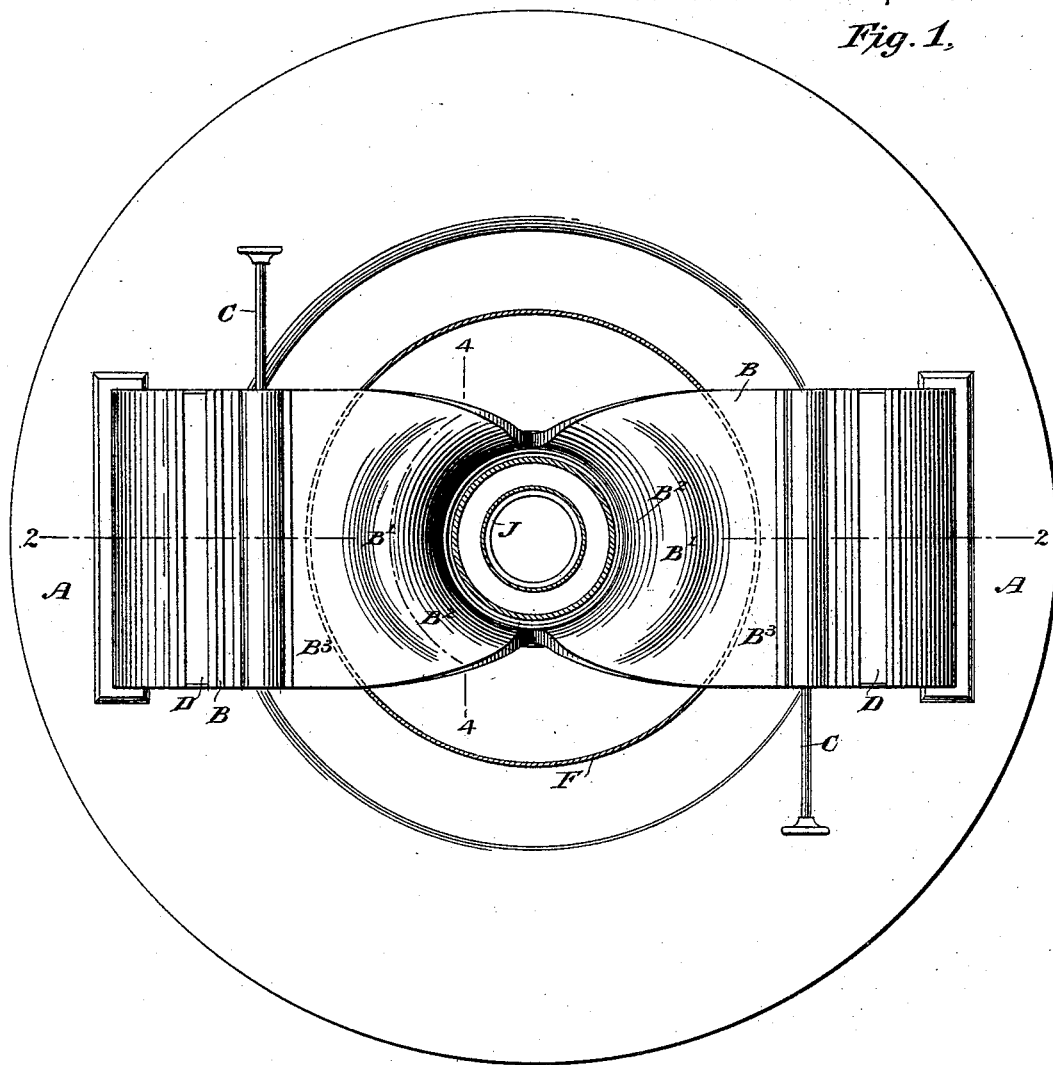
2 Sheets—Sheet 1.

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

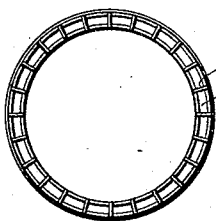
No. 494,230.

Patented Mar. 28, 1893.

*Fig. 1,*



*Fig. 3,*



Witnesses  
C. E. Ashley  
H. W. Lloyd.

By their Attorneys

John Howard Ross  
Edward Elijah Atkins  
Inventors

Mitter & Kenyon



# UNITED STATES PATENT OFFICE.

JOHN HOWARD ROSS AND EDWARD ELIJAH ATKINS, OF BIRMINGHAM,  
ENGLAND.

## OIL-LAMP.

SPECIFICATION forming part of Letters Patent No. 494,230, dated March 28, 1893.

Application filed July 8, 1891. Serial No. 398,757. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN HOWARD ROSS and EDWARD ELIJAH ATKINS, subjects of the Queen of Great Britain, and residents of Birmingham, England, have invented a certain new and useful Improvement in Oil-Lamps; and we do hereby declare the following to be a clear and exact description thereof, reference being had to the accompanying drawings, which form a part hereof.

The invention relates to oil lamps, and particularly to overhead oil lamps in which the oil reservoir is removed from immediately below the flame and the light is thereby thrown unobstructedly downward.

The invention has for its object to conduct and hold the oil-carrying wick between the oil reservoir and a curved burner in such a way as to utilize all parts of its width and all parts equally in the oil-carrying function and to deliver oil equally at all points of its width at the burner and also to feed the wick evenly to the burner and to feed the wick there with a delivery edge substantially perpendicular to the length of the wick; and it has also for its object to feed a wick to the flame in such a way as to reliably present to the flame an even oil-supplying wick-edge.

The invention consists of the devices and combinations herein described and claimed.

In the accompanying drawings we have shown a lamp which embodies our invention in the best form known to us.

Figure 1 is a top sectional view of the lamp on a line above the wick-tubes of Fig. 2. Fig. 2 is a sectional view of the lamp on the line 2, 2, of Fig. 1. Fig. 3 is a detail view of the burner. Fig. 4 is a detail sectional view of one of the wick tubes on the curved line 4, 4, of Figs. 1 and 2. Fig. 5 is an enlarged sectional view of one end of the wick tube and of part of the burner with a still more enlarged detail of the burner. Figs. 2, 4 and 5 show the wick (in section) in the wick tube. A is the oil reservoir.

B, B, are two wick tubes. These wick tubes are constructed with a medially central humped or raised portion B', an approximately vertical but circular or curved portion B<sup>2</sup> toward the burner end, and a flat portion B<sup>3</sup> toward the reservoir end, all substantially as

shown in the drawings. These wick tubes in internal measurement are of uniform width from end to end, and are also of uniform height or depth throughout, thus receiving and holding a straight wick of a uniform width and thickness evenly and with equal pressure or fitting throughout.

The wick tube shown and described has this peculiarity that the distance from the surface of the oil in the oil reservoir to the burner or point of ignition of the oil in a line parallel to the edges of the wick tube is substantially equal and the same at all points in the width of the wick tube. From this it results that a straight wick is fed evenly through the wick tube and is caused to present at the burner a wick end that is substantially perpendicular to the length of the wick in spite of the fact that the burner is curved or circular, every point of which wick end clear across the width of the wick is at substantially the same oil-carrying distance from the oil reservoir as every other point and so delivers oil to the flame with the same and equal facility as every other point of the wick end. Moreover no one part of the wick end is projected farther and oftener into the flame than other parts, a trouble that has heretofore attended the feeding of flat wicks into curved or circular burners.

C C are toothed wheels (with connected spindles or shafts) for advancing or retracting the wicks in the wick tubes. These are placed in the flat parts B<sup>3</sup> of the wick tubes, which are made flat for that purpose.

D D are openings in the wick tubes for the purpose of introducing or removing the wicks to or from the tubes. They are ordinarily closed by simple slides shown in place in Fig. 2.

E is a circular burner cap made up of inner and outer walls adapted to embrace the ends of the wick tubes. It is shown in Figs. 2, 3 and 5. Its peculiarity is that between its walls and across its wick delivery mouth or end is a series of radially arranged bars or stops clearly shown in the drawings at E'. These bars or stops, which are arranged at regular distances apart and at such distances that several of them occur within the space of the width of each wick-end, operate to restrain and control and equalize the feeding

forward of the wick-end into the flame while at the same time not materially affecting the continuity of the flame across the width of the wick end.

5 In use the design is that the wick shall by means of the toothed wheels C be always kept pressed with a gentle and even pressure up against the series of bars or stops. By this device smoking of the lamp is made im-  
10 possible and the character of the flame is kept more reliably steady and uniform than heretofore, because the feeding of parts of the wick-end into the flame farther than other parts is prevented.

15 The burner E is preferably made with an ordinary angular slot as shown in detail in Fig. 5 adapted to take on a pin on one of the wick tubes, so as to be detachable for purposes of cleaning, &c.

20 F is a perforated dome or series of brackets connecting the lower or oil reservoir frame work of the lamp with an external chimney G. The latter carries an internal chimney H which internal chimney can be raised or low-  
25 ered by means of a pin attached to it and moving in an angular slot in the outer chimney, as shown in dotted lines in Fig. 2. The chimney H carries at its lower end an ordinary refractory portion J, having preferably  
30 a slightly flaring lower end.

K is an air deflector outside of the flame. The flame in the ordinary way curves down from the burner, between K and the flaring end of J and around the latter and up the  
35 chimney.

L is the protecting glass globe which may be hinged as shown at one side and fastened by a latch at the other so as to be readily swung out of the way when desirable for  
40 cleaning purposes, &c.

M is an ordinary hook attachment for hanging the lamp, as to a ceiling. In the form of lamp shown in the drawings the arrangement of parts is such that air is fed to the flame  
45 both inside and outside of the burner all around and so that such air is considerably heated before it reaches the flame, whereas the oil reservoir is kept cool by intervening currents of cool air.

50 Our invention is peculiarly applicable to overhead lamps having a central circular burner to which two flat wicks are fed inwardly from lateral oil reservoirs and in which burner the two flat wicks unite with their  
55 ends side by side and form a circle. Heretofore such a lamp has been practically im-

possible of successful construction because of the uneven and irregular manner in which the two flat wicks have fed toward each other and more or less against each other, and because 60 occupying so large an arc of a circle, the wick end presented at the burner has been curved and the wick has been longest at its edges and shortest at its center. Our invention, however, is not limited to such a lamp, as for 65 the purposes of the several claims made herein many changes and modifications might manifestly be made in the many parts of the lamp without departing from our invention.

Having now described our invention, what 70 we claim, and desire to secure by Letters Patent, is as follows:

1. In a lamp the combination with a suitable oil reservoir and a circular or curved burner, of a wick-tube constructed with a 75 medially central raised or humped portion, a circular or curved vertical portion toward the burner, and a flat portion toward the oil reservoir, substantially as and for the purposes set forth.

2. In a lamp the combination with a suitable oil reservoir and a circular or curved burner, of a wick-tube constructed with a 80 medially central raised or humped portion, a circular or curved vertical portion toward the burner and a flat portion toward the oil reservoir, the said wick-tube having a toothed wheel or ratchet in its flat portion, substantially as and for the purposes set forth.

3. In a lamp the combination with a suitable oil reservoir and a central circular or curved burner, of two or more wick-tubes B 90 having a medially central raised or humped portion B', a circular or curved vertical portion B<sup>2</sup>, and a flat portion B<sup>3</sup>, substantially as and for the purposes set forth.

4. In a lamp the combination with a suitable oil reservoir and a central circular or curved burner and a central chimney within the burner, of two or more wick-tubes B, hav- 100 ing a medially central raised or humped portion B', a circular or curved vertical portion B<sup>2</sup>, and a flat portion B<sup>3</sup>, substantially as and for the purposes set forth.

JOHN HOWARD ROSS.

EDWARD ELIJAH ATKINS.

Witnesses as to signature of J. H. Ross:

HENRY D. WILLIAMS,

LIVINGSTON EMERY.

Witnesses as to signature of E. E. Atkins:

ERNEST HARKER,

M. BATCHELOR.