

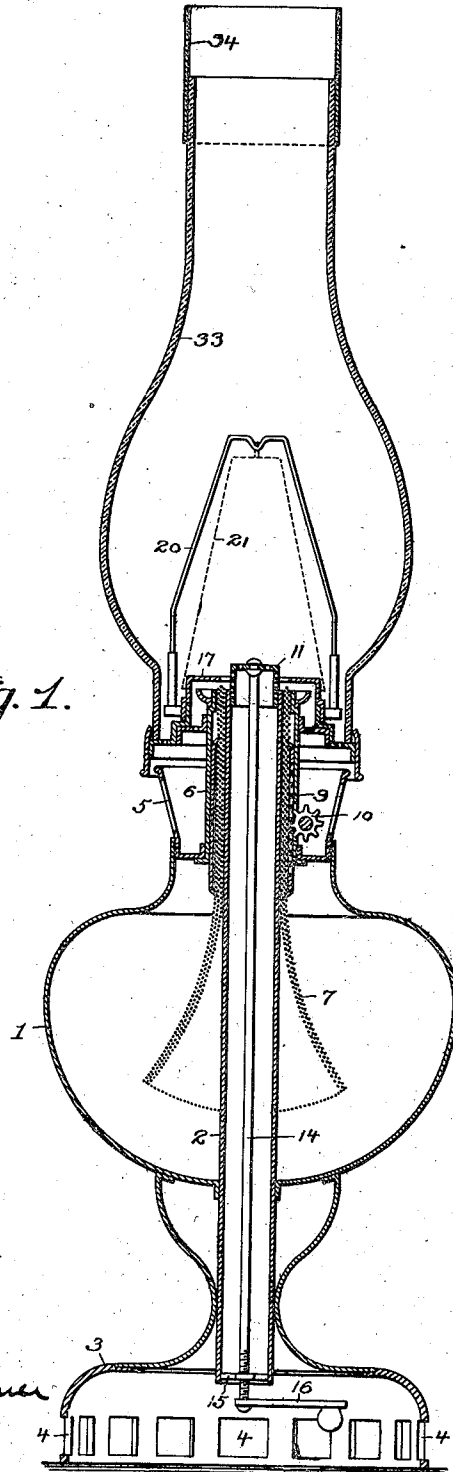
H. N. KERR.
LAMP.
APPLICATION FILED MAR. 15, 1911.

1,062,340.

Patented May 20, 1913.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

William S. Turner
Kate A. Beadle

INVENTOR
HENRY N. KERR
BY HIS ATTORNEY

Harry Smith

H. N. KERR.

LAMP.

APPLICATION FILED MAR. 15, 1911.

Patented May 20, 1913.

2 SHEETS—SHEET 2.

1,062,340.

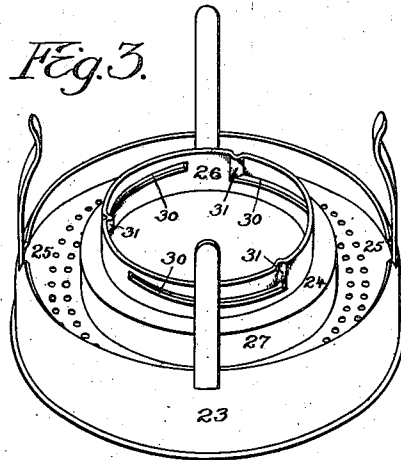
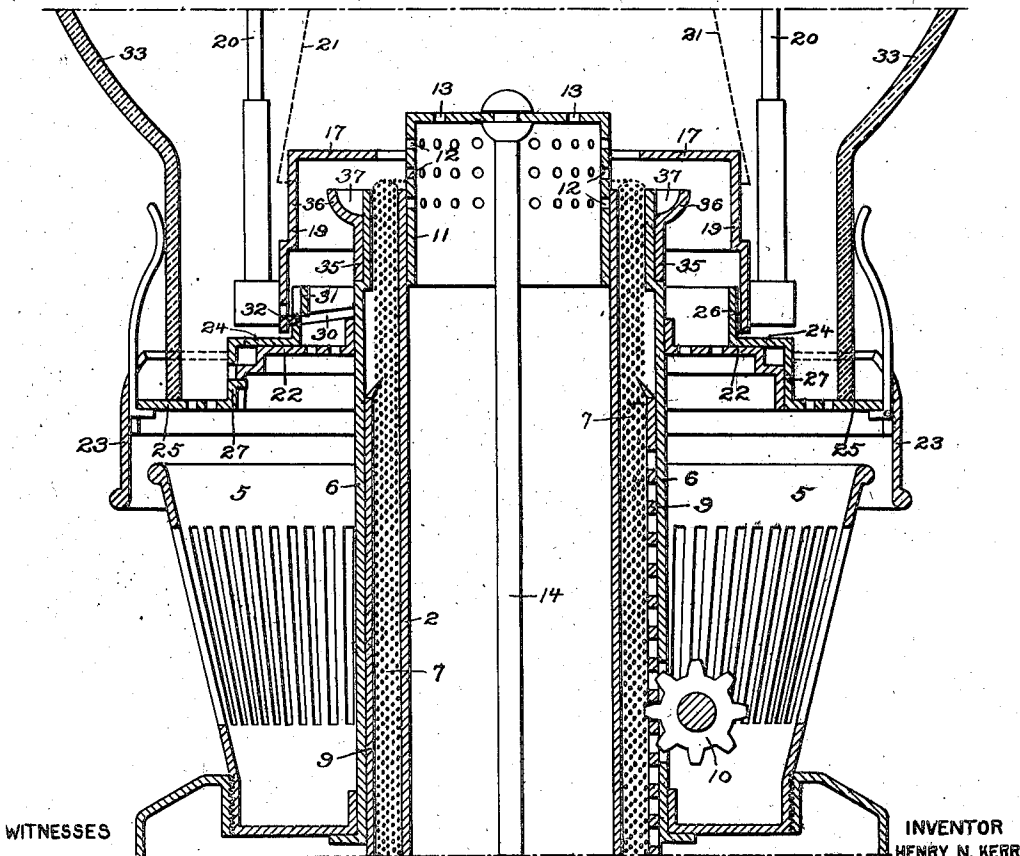


Fig. 2.



WITNESSES

Hamilton D. Turner
Kate A. Beadle

INVENTOR
HENRY N. KERR

BY HIS ATTORNEY

Harry Smith

UNITED STATES PATENT OFFICE.

HENRY N. KERR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO MARY E. KERR,
OF PHILADELPHIA, PENNSYLVANIA.

LAMP.

1,062,340.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed March 15, 1911. Serial No. 614,734.

To all whom it may concern:

Be it known that I, HENRY N. KERR, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Lamps, of which the following is a specification.

My invention relates to that class of oil lamps in which the oil is conveyed to the burner by means of a wick and is vaporized and mixed with air, so as to heat to incandescence a mantle supported above the burner.

One of the objects of my invention is to so construct a lamp of this character that it may be used either with or without the mantle, further objects being to readily control the feed of air to the inner and outer sides of the flame at the top of the wick, to prevent the transmission of heat in dangerous volume to the oil font of the lamp, and to permit ready separation of the mantle holder and chimney holder as when the lamp is to be used without the mantle.

In the accompanying drawings—Figure 1 is a vertical sectional view of a lamp constructed in accordance with my invention; Fig. 2 is an enlarged vertical section of the burner portion of the lamp, and Fig. 3 is a perspective view of the chimney holding member of the same.

In the drawings, 1 represents the oil font of the lamp, through which passes the inner wick tube 2, the latter receiving a supply of air at its lower end through the base 3 of the font which is provided with air inlet openings 4 for this purpose.

Secured to the upper portion of the font is a basket 5 slotted, perforated, or otherwise constructed, for the free flow of air to the interior of the same, this basket carrying the outer wick tube 6, and the tubular wick 7 being contained between the inner and outer wick tubes and being engaged by a tubular wick carrier 9 which has, at one side, a rack for engaging with a pinion 10, or is otherwise constructed for being raised and lowered so as to raise and lower the wick in the same manner as in an ordinary oil lamp of the "Argand" type.

At the top of the inner wick tube 2 is a cap 11 which has perforations 12 in its walls and other perforations 13 in its top, so that a portion of the air rising through the inner wick tube is expelled through the perforations 12 in the side walls of the cap and

acts as a flame spreader, while other portions of the air are expelled through the perforations 13 in the top of the cap and are directed upwardly into the space within the mantle so as to provide an additional supply of air to the upper portion of the flame and aid in rendering the upper portion of the mantle incandescent.

The cap 11 is slidably mounted in the upper portion of the inner wick tube 2 and is carried by a central rod 14, which is threaded as to its lower portion and engages an internal thread in a bar 15, which bridges the lower portion of the inner tube 2, the rod 14 having, at its lower end, a handle whereby it may be readily turned so as to raise or lower the cap 11 and thus regulate the supply of air delivered to the inner surface of the flame rising from the top of the wick.

Air is directed against the outside of the flame by means of an internally projecting flange 17 at the top of the mantle-carrying ring 19, the latter having suitable supports for the rod or rods 20 from which the mantle 21 is suspended in the usual manner, the lower edge of said mantle, by preference, overlapping the ring 19, as shown in the drawing.

The air which is supplied to the outer portion of the flame arising from the wick enters through perforations in a ring 22 secured to and projecting outwardly from the outer wick tube 6, and this ring also serves for the support of the chimney holder 23 which has upper and lower horizontal flanges 24 and 25, a vertical flange 26 at the inner portions of the horizontal flange 24, and another vertical flange 27 connecting the horizontal flanges 24 and 25, said flange 27 being connected to a vertical flange of the ring 22 by means of a bayonet joint or other suitable device, whereby the chimney holder can be readily removed from the burner, when desired.

In the vertical flange 26 of the chimney holder are formed inclined cam slots terminating at their lower ends in vertical offsets 31 formed in said flange, as shown in Fig. 3, and on the side walls of the mantle carrying ring 19 are formed lugs or depressions 32 which may be passed vertically through the vertical offsets 31, so that they will rest upon the lower walls of the slots 30 at the lower ends of the same, hence by

turning said mantle holding ring the lugs thereon will not only engage with said slots 30 to lock the said ring to the chimney holder but will also provide a means for raising and lowering the mantle holding ring, and thereby varying the position of the internal flange 17 at the top of the same in respect to the top of the outer wick tube, thus increasing or diminishing the space through which the air gains access to the outer portion of the flame, thereby serving as a means to throttling this air supply to any desired extent necessary to secure the best results in combustion. This construction also provides for the ready removal of the mantle and mantle holder if, from any cause, such, for instance, as the impairment or destruction of the mantle, it is desired to use the lamp with a naked flame such as that of the ordinary "Argand" lamp. In order, however, to permit of the effective use of the lamp either as an ordinary "Argand" lamp or as a mantle lamp, provision should be made for varying the draft of the chimney 33 and for this purpose I provide the top of the latter with a sliding or telescopic extension 34 which may be of sheet metal, mica, or other available material, and which, when adjusted to the top of the chimney, increases the draft of the latter and renders it available for use in connection with a mantle, the extension 34 being adjustable vertically on the chimney so as to vary the extent of its draft and being either removed or fully depressed so that it will not add to the heat of the chimney when the mantle has been removed from the burner and the latter is operating in the ordinary way.

The horizontal flange 25 of the chimney holder is perforated for the passage of air which ascends adjacent to the chimney and serves to prevent the overheating of the latter as well as to supply oxygen for maintaining combustion. In spite of this precaution, however, the chimney holder becomes highly heated and in order to prevent the transmission to the oil font 1 of the lamp of such a degree of heat as would overheat or vaporize the oil contained therein, the chimney holder instead of being supported upon the basket 5, as usual, is wholly free from any connection with said basket and is supported entirely by the ring 22 which is mounted upon the outer wick tube 6, as shown in Fig. 2.

To prevent the transmission of heat to the oil font through the outer wick tube 6, the latter is connected with the font through the medium of the base portion of the basket 5, consequently the latter serves as a radiator for disseminating the heat of the outer wick tube, since cool air is always flowing through the slots or perforations of the basket and is abstracting heat therefrom so

as to be properly preheated before it comes into contact with the flame at the top of the wick. The chimney holder, however, serves to transmit, through the medium of the ring 22, sufficient heat to the upper portion of the wick tube to insure the proper vaporization of the oil at the upper portion of the wick.

In order to properly deflect the air at the upper end of the outer wick tube, the same is usually provided with a horizontal outwardly extending flange at the top, but it has been found in practice that oil would accumulate on this flange and the burning of this oil results in the production of a smoky flame which carbonizes the mantle and causes the lamp to emit an objectionable odor. I therefore provide, at the top of the outer wick tube, a hollow flange or trough which, while still providing for the desired outward deflection of the air at the top of the wick tube, dispenses with the horizontal flange or shelf and with the objections thereto above noted. By preference, the outer wick tube has an inward offset at the top so as to compress the wick at or near the top and prevent down draft of flame through the wick, and also provide a seat for a ring 35, the latter having, at the top, a curved or inclined and outwardly projecting flange 36 between whose inner face and the outer face of the wick tube 6 is formed a tapering groove or channel 37, Fig. 2.

I find that when the lamp is in operation and the air is flowing rapidly over the upper edge of the flange 36 there is no tendency of the oil to flow into or collect in the tapering groove 37, which remains clean and free from oil during the entire time that the lamp is in operation.

I claim:

1. The combination, in an oil lamp, of an outer wick tube, a mantle carrier, a support therefor, and a throttling flange forming part of said mantle carrier and serving to direct air inwardly over the top of the outer wick tube and against the flame at the top of the wick.

2. The combination, in an oil lamp, of an outer wick tube, an air throttling flange which, when in position, serves to direct air inwardly over the top of said outer tube and against the flame at the top of the wick, and a support for said flange from which it is detachable.

3. The combination, in an oil lamp, of an outer wick tube, an air throttling flange which serves to direct air inwardly over the top of said outer wick tube and against the flame at the top of the wick, said throttling flange having a support upon which it is adjustable vertically in respect to the wick tube so as to vary the area of the air passage between said wick tube and flange.

4. The combination, in an oil lamp, of

70

75

80

85

90

95

100

105

110

115

120

125

130

means for guiding and retaining the upper end of the wick, a mantle carrier, a support therefor, and means for effecting vertical adjustment of said mantle carrier in respect to the wick.

5. The combination, in an oil lamp, of an outer wick tube, a mantle carrier having an inwardly projecting throttling flange which serves to direct air inwardly over the top of the outer wick tube and against the flame at the top of the wick, a support for said mantle carrier, and means for effecting vertical adjustment of said mantle carrier so as to vary the area of the air passage between its throttling flange and the top of the outer wick tube.

6. The combination, in an oil lamp, of a chimney holder having inclined cam slots and vertical offsets communicating with the lower ends of the same, with a mantle holder having lugs adapted to pass through said vertical offsets and engage the inclined slots.

7. The combination, in an oil lamp, of a lamp font, an outer wick tube, a chimney holder, means for supporting the latter upon the wick tube, and a basket surrounding the wick tube and having openings for

the passage of air therethrough, said basket being free from contact or connection with the chimney holder.

8. The combination, in an oil lamp, of an oil font, an outer wick tube, a chimney holder, means for supporting the latter upon the outer wick tube, and a basket connected to the oil font and surrounding the wick tube but free from connection with the chimney holder, said basket constituting the sole means of connection between the outer wick tube and the oil font.

9. The combination, in an oil lamp, of an outer wick tube having an inwardly offset portion at the top, with a ring seated upon said offset portion of the tube, said ring having at the top an outwardly flaring flange forming a groove which surrounds the upper end of the outer wick tube.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

HENRY N. KERR.

Witnesses:

KATE A. BEADLE,

HAMILTON D. TURNER.