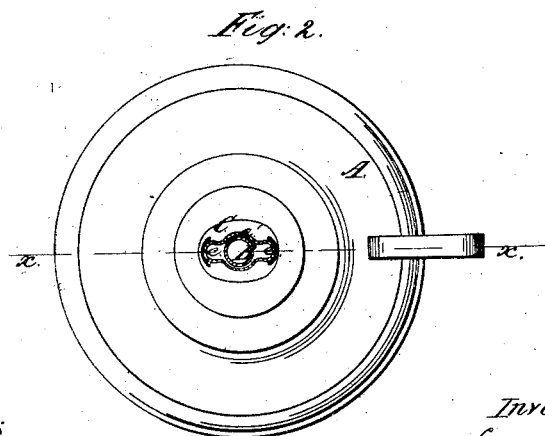
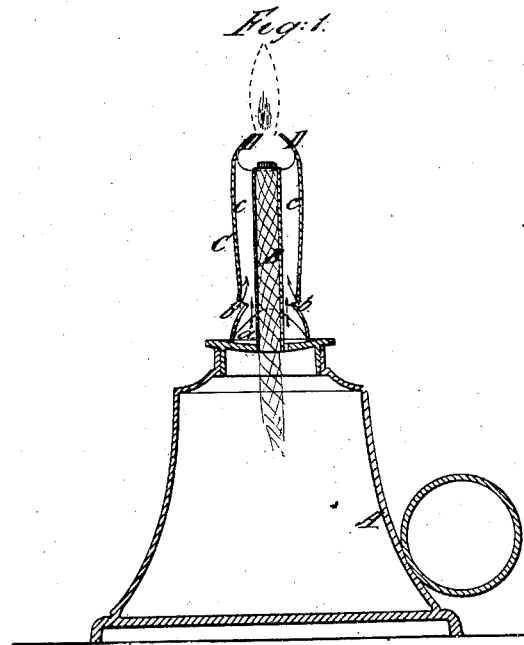


E. Roberts.

Lamp.

N^o 49,924.

Patented Sep. 12, 1865.



*Witnesses;
Henry Morris
& L. Topliff.*

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Edwin Roberts
per Munn & Co.
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UNITED STATES PATENT OFFICE.

EDWIN ROBERTS, OF MOORESTOWN, NEW JERSEY, ASSIGNOR TO HIMSELF
AND HENRY COY.

IMPROVEMENT IN COAL-OIL HAND-LAMPS.

Specification forming part of Letters Patent No. 49,924, dated September 12, 1865.

To all whom it may concern:

Be it known that I, EDWIN ROBERTS, of Moorestown, in the county of Burlington and State of New Jersey, have invented a new and Improved Coal-Oil Lamp; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical section of a lamp and my improvement, which is attached to it, *xx*, Fig. 2, indicating the line of section; Fig. 2, a plan or top view of the same; Fig. 3, a detached side view of my invention.

Similar letters of reference indicate like parts.

This invention relates to a new and improved jacket to be applied to the cylindrical wick-tube of a coal-oil hand-lamp without a chimney, for the purpose of producing a sufficient light without smoke and better protecting it from being extinguished by suddenly lifting the lamp or rapidly carrying it about through a dwelling.

It consists in constructing the said jacket out of a short cylindrical tube of thin sheet metal by longitudinally crimping its upper half, so that when the jacket is applied over the usual long cylindrical wick-tube of a coal-oil hand-lamp it will afford along the upper half of the said wick-tube two small distinct air-flues parallel with each other, the wick-tube being between, the lower half of the said jacket being left cylindrical, its bottom edges scalloped out for the free admission of air to the two flues above, and the upper end of each flue formed to have a broad projecting plate inclined partly over the wick-tube, so that it will serve to deflect the rising currents of heated air of the flues against the flame.

A represents a lamp, which may be constructed in any of the known forms, and B the wick-tube, which must be of cylindrical form, such as are used for burning-fluid.

C is a jacket, constructed of sheet metal, and of flaring form at its lower part, the lower end being scalloped out so as to form air-spaces *a a*; and openings *b* may also be made in the

lower part of the jacket to admit of the entrance of air. The upper part of the jacket C is swaged so as to form three compartments, *c c c'*, which extend upward side by side, the central one, *c'*, being designed to receive the tube B, while the others, *c c*, conduct the air to the flame, as shown clearly in Fig. 1.

At the top of the jacket C there are two plates, D D, one at the outer edge of each compartment or air-passage *c*, and these plates are curved inward toward each other, as shown in Fig. 1, said plates being broader than the top of the jacket, as shown in Fig. 3. When the jacket is placed on the wick-tube the upper end of the latter will be about on a level with the upper end of the compartment *c'*. The jacket, however, may be raised or lowered in order to vary the height of the flame, as may be desired. The air-passages *c c* conduct the air to the flame, while the deflectors D D cause the air to impinge against the flame, so that the latter will be abundantly supplied with oxygen, the flame being spread out or flattened between the plates or deflectors, so as to present a broad area above the deflectors.

The jacket may be swaged in proper form out of sheet metal at a trifling cost, and it may be applied to any cylindrical wick-tube. A perfect illuminating-flame is produced by it, and it will admit of coal-oil being used in hand-lamps without the emission of smoke or any unpleasant odor. The central compartment, *c'*, fits closely around the wick-tube B, so that the jacket can be supported simply by friction at any height on the wick-tube which the desired weakness of the light may render expedient in using it as a night-light; but in any case the wick is not intended to project high enough to produce smoke.

In the operation of the jacket, its lower half being capacious and also open to the air at its bottom, and the flues *c c* being comparatively of small diameters, the air, becoming heated, rushes up with increasing velocity through the said flues, and, impinging against the deflecting-plates D D, is directed by them upon the lower part of the flame, so as to perfect the combustion of the oil, while in lifting the lamp suddenly the said plates deflect the air above them outward, so as to prevent its extinguish-

ing the flame, and serve also to protect it in carrying the lamp about.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The jacket C, constructed as described and set forth, in combination with the cylindrical wick-tube B of a coal-oil hand-lamp, the said

jacket and tube being arranged to operate together as described, for the purposes specified.

EDWIN ROBERTS.

Witnesses:

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T. H. MAXELL.