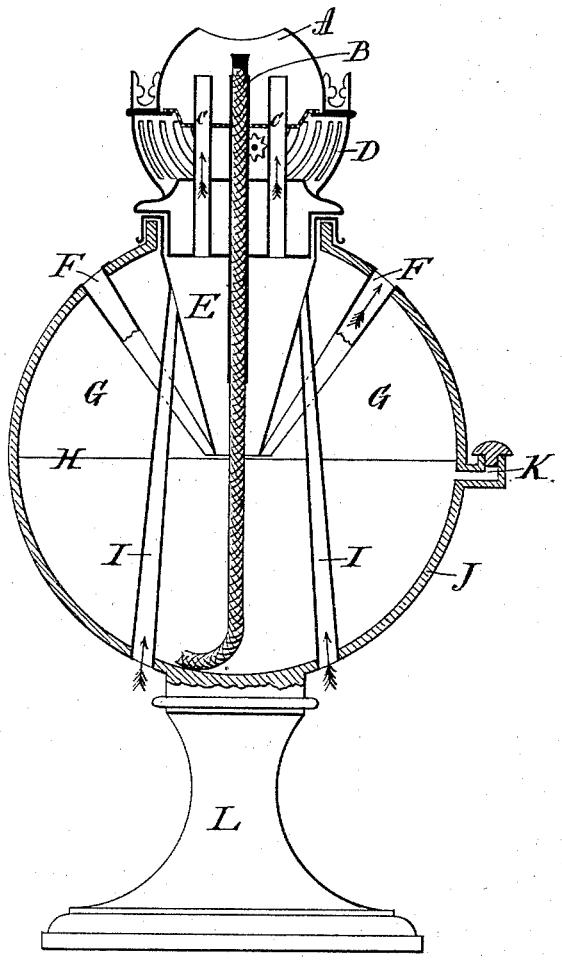
(No Model.)

F. E. & S. TOWNSEND.

OIL LAMP.

No. 456,642. Patented July 28, 1891.



Witnesses.
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UNITED STATES PATENT OFFICE.

FREDERICK ERNEST TOWNSEND AND SAMUEL TOWNSEND, OF LUTON, ENGLAND.

OIL-LAMP.

SPECIFICATION forming part of Letters Patent No. 456,642, dated July 28, 1891.

Application filed October 27, 1890. Serial No. 369,504. (No model.) Patented in England November 5, 1888, No. 15,942.

To all whom it may concern:

Be it known that we, FREDERICK ERNEST TOWNSEND and SAMUEL TOWNSEND, subjects of the Queen of Great Britain, residing at 7 Stuart Street, Luton, in the county of Bedfordshire, in England, have invented new and useful Improvements in Oil-Lamps, (for which we have obtained a patent in Great Britain, No. 15,942, bearing date November 5, 1888,) of which the following is a specification.

This invention relates to improvements in hydrocarbon-oil lamps with air-shafts directing the pure air into the flame for the purpose of obtaining an increase of light and to permit the gases or vapors from the oil to escape, and thereby prevent explosions.

In order that our invention may be thoroughly understood, we now proceed to describe the accompanying drawing thereof, reference being had to letters marked thereon.

The drawing represents a section of the burner and oil-reservoir, with the various tubes I to admit the pure air and the tubes F F to permit the oil-gas to escape, and is constructed of metal or any other suitable material. An inner tube or chamber E is inserted in the reservoir, either of a round, oval, or rectangular shape, tapering from the collar about half the distance of the depth of the said reservoir, with an opening at the bottom large enough to allow the wick or wicks to pass freely through the same into the oil below the oil-line H. Near the top of this tube one or more pipes I are inserted, either perpendicular, slanting, or curved, and passed through the outside of the reservoir J and secured thereto and made air-tight at the joints or connections. We prefer to arrange the pipes I so that they shall pass through the body of oil in the reservoir, as thereby the passage of the air to the burner will serve to keep the oil in the reservoir cool.

On one side of the reservoir a mouth-piece K is inserted and provided with a screwed stopper or plug, the top of the same not being above the level of the inner tube E. The oil is poured into the mouth-piece, the surface of the oil rising no higher than the level of line H.

The burner of the lamp is constructed of metal, having two air-shafts C C connected with the collar or tube E, which, as shown, forms a socket for the burner. One air-shaft is placed each side of the wick-tube B in either a single wick, duplex, round, or any other wick-tube, passing through to the bottom of the burner. The wick-tube B passes through the burner into the inner tube E of the reservoir to any suitable distance. The wick tube or tubes, if preferable, may be rather higher than the air-shafts C C and below the opening in the cap or hood A. The wind-guard D is perforated in the usual manner, with a perforated disk or tray in the inside to catch any carbonized wick.

The burner is made to be fastened to the reservoir and to be removed from the same either by a socket-joint or a screw-thread. The aforesaid pipes C C are for conveying pure air to the inside of the burner, the air traveling, as indicated by arrows, in the tubes I I into the tube E, and ascends the shafts C C and mixes with the flame previous to the same passing the slot in the cap A, thereby giving a more perfect combustion and increase of illuminating-power. The heated gases or vapors are not confined, as now, in the ordinary lamp-fount, but pass into the tubes F F, which permit free ventilation.

Our reservoir is so constructed that should the lamp fall down the oil would flow into the upper part of the reservoir G G, and thereby cut off the supply of oil from the wick-tube.

The reservoir is fixed to a stand L for a table-lamp, or may be fixed to any other fittings, such as brackets, pendants, or the like.

What we claim, and desire to secure by Letters Patent of the United States, is—

1. In a lamp, the combination, with the fluid-reservoir and the burner having air-passages therein, of the tube E, extending from the burner to the middle of the reservoir and communicating with said passages, and the air-ducts extending from the lower surface of the reservoir to the said tube E, substantially as described.

2. In a lamp, the combination, with the reservoir, of the tube or chamber E, adapted to receive the burner at its upper end and having its lower end located at the middle of the

reservoir, the burner having the wick-tube and the air-passages communicating with the tube E, and ducts for admitting air to said tube E, substantially as described.

3. In a lamp, the combination, with the reservoir having the mouth-piece K located midway of its height, of the ventilating-tubes F and the tube or chamber E, said tubes F and E having their inner ends at the middle of the reservoir, substantially as described.

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