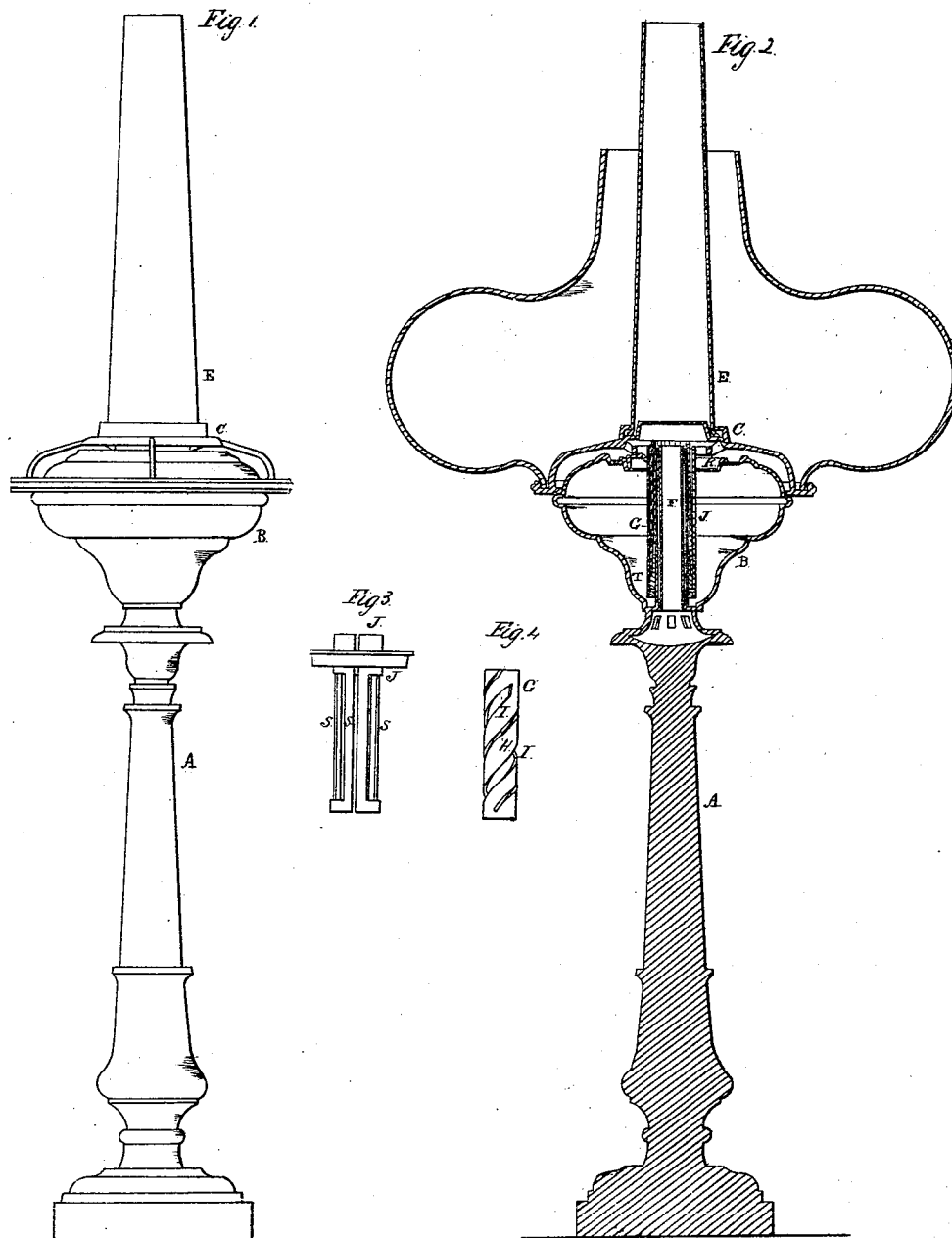


F. H. SOUTHWORTH.  
LAMP.

No. 2,827

Patented Oct. 22. 1842.



# UNITED STATES PATENT OFFICE.

F. H. SOUTHWORTH, OF WASHINGTON, DISTRICT OF COLUMBIA.

## LARD-LAMP.

Specification of Letters Patent No. 2,827, dated October 22, 1842.

*To all whom it may concern:*

Be it known that I, FREDERICK H. SOUTHWORTH, of the city of Washington and District of Columbia, have invented a new and useful Improvement in Argand Lamps, for Adapting said Lamp to the Burning of Lard, and other Concrete Substance, called "Southworth's Improved Lard and Oil Lamp," which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a side elevation of the lamp. Fig. 2 vertical section through the center of the same. Fig. 3 side elevation of the copper skeleton cylinder and cap, that surrounds the wick. Fig. 4 side elevation of the spirally perforated tube.

Similar letters refer to corresponding parts.

The pedestal A, reservoir B, the cap C, shade D, and chimney E may be made as represented in the drawing, in the usual, or most approved manner.

The tube F, within the reservoir through which the atmosphere passes to support the combustion of the lamp, and spread the flame, is made of copper, is open at both ends, and extends from the bottom of the reservoir to a short distance above the cap K. Around this tube is fastened another metallic tube G, of nearly the same length, and a little greater diameter; with the usual spiral groove H formed on its outer periphery, for raising or lowering the thimble and wick, and is also perforated with a slot I extending from top to bottom in a spiral direction to correspond with the curvature of the groove H, the object of which slot is to allow the lard inside the wick to come in contact with the inner copper tube F, which being heated by the flame of the lamp will liquidize said lard and keep it in a liquid state. Instead of the slot I round apertures may be made in the tube between the windings of the groove H but the slot is preferable as it will expose more of the surface of the inner copper tube E to the lard without interfering with the groove. Outside the last mentioned tube G is placed the skeleton cylinder or conductor J, (a sufficient space being left between to allow the thimble and wick to play loosely up and down) which conductor is fastened near the top to a cap K, which cap covers the top opening in the reservoir through which the lamp is fed, and rests and turns on the top

plate of the same, and holds the conductor in an upright position. The last mentioned conductor J consists of a copper cylinder of nearly the same length as the inner tube E, with three or more oblong openings made in the same, extending from the bottom of the cap K, to which said cylinder is fastened, to near the bottom of the wick, and equal distances apart, leaving strips of copper s between said openings of about  $\frac{1}{3}$  their width which strips, being surrounded by the lard, and being in direct contact with the flame of the lamp, will become heated, and will impart their heat to the lard immediately in contact with them, and will liquidize, and keep it in a liquid state around the outside of the wick.

The wick is placed between this conductor J and the tube G, with the spiral slot formed on it, and is fastened at the bottom to the usual formed thimble T, which is raised and lowered with the wick by a pin projecting from the inside of said thimble and playing in the groove H in the usual manner. When the wick is lighted, the top of the skeleton cylinder or conductor will be in contact with the lower part of the flame, and being composed of a good conducting material, will immediately conduct the heat to the lard surrounding it below and liquidize and keep the same in a liquid state around the outside of the wick. The inner tube F being also in contact with the flame and composed of the same material, will also become heated, and the body of lard inside the wick being in contact with its outer surface will be kept in a liquid state and said tube E will also expand the air as it approaches the flame, through the tube for supplying the combustion, thereby more fully spreading and raising the flame and also adding to the brilliancy of the same by the increased current of air. This form of skeleton cylinder, etc., the other improvements described, may be applied to the hanging or suspension lamp in which case the cap that surrounds the flame, for impinging the air and supporting the chimney and shade, rests on four feet, which revolve in a circular groove formed on the top of the reservoir.

The above described lamp is equally as well adapted to burnings oils, as congealed substances.

The conductors may be made of any other material than that described.

What I claim as my invention and which I desire to secure by Letters Patent is—

Forming a slot I or perforations in the tube G for allowing the lard, or oil, inside  
5 the wick to come in direct contact with the inner additional tube E for the purpose described in combination with the skeleton

cylinder or conductor J, for liquidizing and keeping the lard, outside the wick in a liquid state.

FREDERICK H. SOUTHWORTH.

Witnesses:

CHAS. SEARNED,  
E. MAHER.