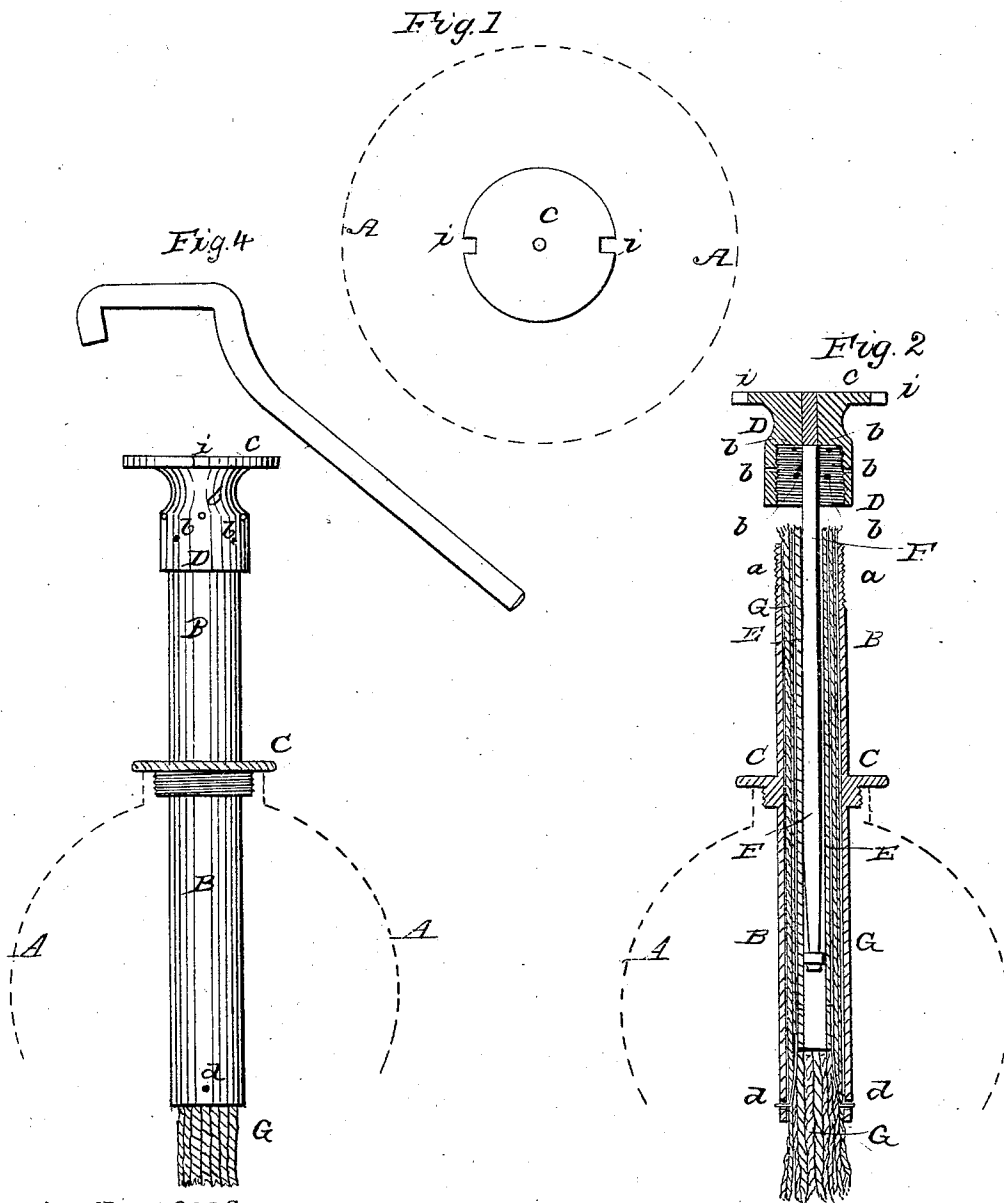


S. WALES.
Vapor Burner.

No. 22,465.

Patented Dec. 28, 1858.



Witnesses
R. H. Eddy.
C. V. Hale

Inventor
Sigourney Wales.

UNITED STATES PATENT OFFICE.

SIGOURNEY WALES, OF BOSTON, MASSACHUSETTS.

BURNER FOR VAPOR-LAMPS.

Specification of Letters Patent No. 22,465, dated December 28, 1858.

To all whom it may concern:

Be it known that I, SIGOURNEY WALES, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Hydrocarbon-Vapor Lamp; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 is an external elevation of such lamp, with the jet cap of its vapor generator screwed upon the outer wick tube. Fig. 2 is a vertical section of the lamp, and represents the jet cap as elevated or raised off the wick tube in order to enable a person to enflame the wick and thereby heat the said cap.

The peculiar advantage of my lamp over others is that I make use of no secondary wick or device in order to heat up the vapor generator to such temperature as will cause it to generate combustible vapor from the hydrocarbon liquid contained in the wick, my lamp being so constructed as to enable a person to accomplish the preliminary heating of the generator by simply raising the cap thereof and applying flame to the top of the main wick.

In some respects, my lamp resembles that described in the United States Patent No. 20977, granted on the 20th day of July, A. D. 1838. They, however, differ materially, for the latter has a secondary wick, and this wick is applied or fastened to a rod extending down from the cover of a cup formed or made outside of and on the top of the cap of the vapor generator. The said rod is surrounded by its wick and does not touch the inner foraminous wick tube although it extends into the same. Besides, were the generator cap to be raised off the outer wick tube or body of the generator, and flame were applied to the main wick, the secondary wick would be destroyed or burned before the flame could come in contact with the rod, and even then the rod would be insulated from the foraminous wick tube by the space between the two and could not conduct heat into the foraminous wick tube. The construction of the said patented lamp is sufficient to show that its main wick cannot be inflamed and the flame thereof be employed in the preliminary process of heating the generator, and therefore the inference is clear that such an idea was never contemplated by the inventor of such lamp.

In the drawings, A is the fluid reservoir of the lamp, while B is the outer or main wick tube as fastened on the cap C of the said reservoir and extending within the latter and above the cap as shown in Fig. 2. This wick tube is furnished with a jet cap D, which is separate from the tube and should fit to it or be connected with it by means of a screw as shown at *a, a*, in Fig. 2. This cap is furnished with jet holes *b, b*, and is surmounted by a heat conducting button or disk *c*, a top view of which is shown in Fig. 3.

Concentrically within the main wick tube, is a tube E, which at its lower end is supported by bars or spring feet *d, d*, extending from it to, or into the metal of the main wick tube. Within the tube E a metallic rod F fits closely and at its upper end is attached to the interior of the jet cap D, the same being so as to enable the jet cap to be screwed either on or off the main wick tube and raised and supported above the same, the friction of the rod against the inner tube serving to hold the jet cap in position above the main wick tube for flame to be applied to the wick G of such wick tube, such wick being made to encompass and fit closely to the tube E. Under these circumstances, whenever it may be desirable to put the lamp in operation, we have only to unscrew the jet cap, raise it off the wick tube, and set fire to the wick. The flame from the wick will impinge against the jet cap and its supporting rod, and by the latter heat from the flame will be carried down into the inner wick tube which in its turn will conduct it into the wick. After the jet cap, the tubes and rod have been raised to the temperature required for vaporizing the liquid contents of the wick sufficiently for supplying the jet holes with hydrocarbon vapor, the jet cap may be depressed upon the wick tube, and flame applied to the jet holes. After this, or while the jets of vapor are inflamed, they so heat the jet cap as to maintain it and the wick tubes at the proper temperature for generating the necessary supply of vapor.

The button *c* of the jet cap is constructed with notches *i, i*, for the reception of a winch shown in Fig. 4, by which the jet cap may be screwed down on the wick tube when the former is in a heated state.

I claim—

When the wick is supported on and

around an inner wick tube and within an
outer wick tube and the jet cap is made sep-
arate from and so as to screw or fit on the
outer wick tube as described, the applica-
5 tion of a rod F to the movable jet cap, D,
and the inner wick tube, E, in such manner
as to be fastened to the cap, D, and extend
into and fit the bore of the tube E, so as
not only to enable the jet cap to be raised
10 and supported above the wick in manner to
allow such wick to be inflamed and the flame
thereof to heat the said jet cap and rod, but

to serve as a means of conducting heat from
the jet cap into the inner tube by which such
heat may be conducted into the wick in order 15
to aid in vaporizing the liquid contents
thereof.

In testimony whereof I have hereunto set
my signature.

SIGOURNEY WALES.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.