

D. H. LOWE.
Vapor Burner.

No. 83,865.

Patented Nov. 10, 1868.

Fig. 1.

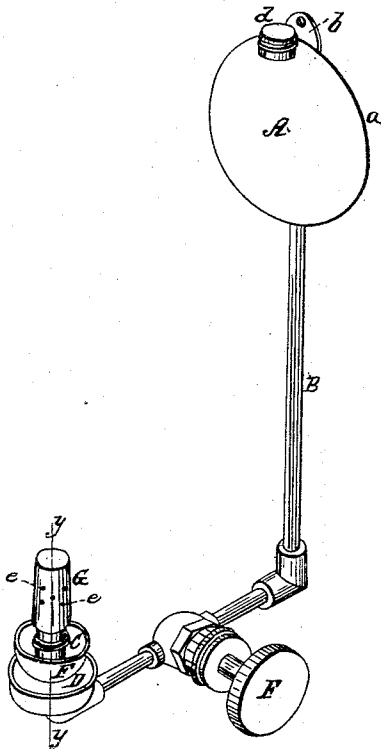


Fig. 2.

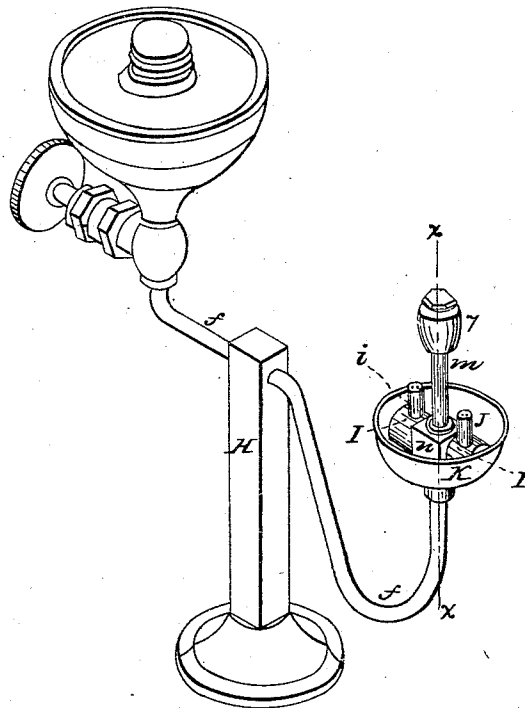


Fig. 3.

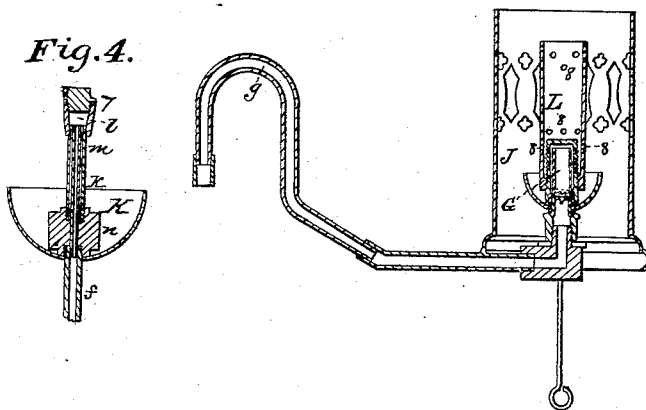


Fig. 4.

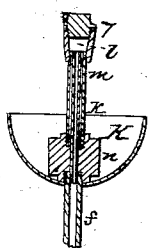
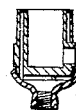


Fig. 5.



Fig. 6.



Witnesses:

Samuel C. Brown
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Inventor:

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Teschmacher & Stearns

UNITED STATES PATENT OFFICE.

DAVID H. LOWE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. **83,865**, dated November 10, 1868.

To all whom it may concern:

Be it known that I, DAVID H. LOWE, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Apparatus for Generating and Burning Gas from Naphtha, &c., for illuminating and heating purposes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved apparatus so constructed as to be readily attached to the side or wall of the room to be lighted thereby. Fig. 2 is a perspective view of my apparatus constructed so as to be used on a table or counter for giving light thereto. Fig. 3 is a vertical section through a nurse-lamp, the tube of which is made to fit over one of the burners shown in Fig. 2. Fig. 4 is a section on the line *xx* of Fig. 2. Fig. 5 is a section on the line *yy* of Fig. 1; Fig. 6, a section through an Argand burner made to use in connection with my improved apparatus.

My invention has for its object to furnish a simple, ready, and economical means whereby naphtha may be converted into gas for the purpose of lighting and heating; and my invention consists in the arrangement of a reservoir containing naphtha with a pipe or tube proceeding therefrom to conduct the gas to a burner connected therewith, the whole constituting a portable apparatus, the burner being provided with a non-conducting material applied to the tube at or near the base of the burner, in order that the heat may not be communicated to the naphtha within the tube until it arrives just at the mouth of the burner, thereby avoiding the liability of causing the flame to flicker or to be blown out, and with a perforated cap, which may be instantly applied to an ordinary burner for varying the form and number of jets of flame when desired.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In Fig. 1 of said drawings, A is a reservoir of the form of a segment of a globe, the side *a* of which is flat, and projects up slightly above the rounded surface *b*, the projecting portion being provided with a hole, *c*, to allow of hanging the reservoir to the side or wall of a room,

or to an upright or horizontal beam or post therein. *d* is a screw-cap, which controls the opening to the reservoir. The upper end of a tube or pipe, B, enters the lower end of the reservoir A, while the lower end of the pipe B, after branching off horizontally, has a burner, C, and a receptacle, D, containing a non-conducting substance, fitted thereto. E is a semicircular cup, placed at the base of the burner in order to catch the liquid naphtha which overflows on first applying a match to the burner C. F is a stop-cock, by which the naphtha is allowed to flow or prevented from flowing to the burner, as required.

On first turning the cock and applying the match to the burner C, the liquid naphtha is ignited, a small portion running over into the cup E; but soon the heat of the flame converts the naphtha (between the non-conducting substance and the top of the burner) into gas, which burns a steady, clear, white flame. Were it not for the presence of the non-conducting substance, the heat of the flame would impart heat to the horizontal branch of the tube, and the naphtha would there be converted into gas, which would have the effect to cause the flame to flicker, and frequently to be blown out.

G is a cylindrical cap-piece or cover, provided with two horizontal rows of small perforations, *e e*. This perforated cap is readily screwed upon the top of a bat-wing or fish-tail burner, when the number of jets is to be increased or their form varied.

In Fig. 2 the construction of my apparatus is changed in order to apply it to a table, counter, &c., the standard H being bored out to allow of the passage of the tube *f*. A double tip or burner, I, is connected with the lower end of the tube, in order that one, *i*, may be used to light the room, while the tube *g* of a nurse-lamp, J, Fig. 3, may be fitted over the other burner, *j*, in case of sickness or otherwise, to heat or boil any article. A small tube, *k*, screwed to the top of tube *f*, conducts the gas up into a small chamber, *l*, formed between the top of the small tube *k* and the enlargement 7 at the top of a tube, *m*, surrounding it, the gas thence descending between the two tubes *k m* to a chamber formed within the block *n*, into which the burners *i j* are screwed. (See Fig. 4.) The semicircular cup K is screwed to the top of the tube *f* at the junc-

tion of the small tube therewith. The lower end of the tube *g* passes up through the center of the lamp *J*, and has screwed thereto a hollow cylindrical tube, *L*, provided with perforations *8*, to supply sufficient oxygen for producing a blue flame.

The receptacle for containing the non-conducting material may be closed instead of open, as shown, and may be of a globular or other form.

The double burner or tip shown in Fig. 2 may be removed, and an Argand burner, Fig. 6, applied to the tube *f*; or my perforated cap *G* may be used with the double tip or any other ordinary form of burner, which may be connected with the tube *f*.

It will be seen that my improved apparatus may be placed in various positions, viz: It may be hung from the center of the ceiling of a room, or to its side or wall, and the burner or burners may be raised or lowered above the

surface of a table or work-bench by making a horizontal branch in the tube, and causing it to slide up or down upon a vertical rod proceeding from a pedestal, a thumb-screw being provided to clamp it when adjusted to its proper height. Again, a reservoir may be placed at the top of a house, and suitable tubes be led to any desired point in one or all the apartments, without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent, is—

The reservoir *A*, burner *C*, perforated cap *G*, and non-conducting material *D*, when all are constructed and arranged to operate as shown and described.

D. H. LOWE.

Witnesses:

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P. E. TESCHEMACHER.