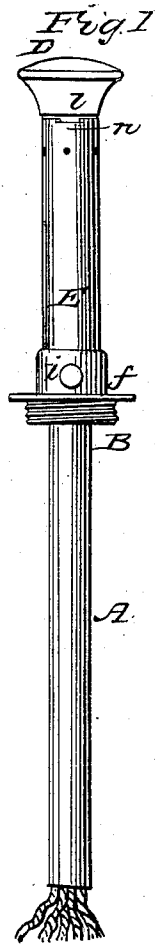
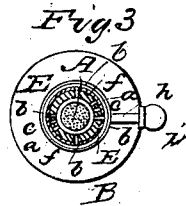
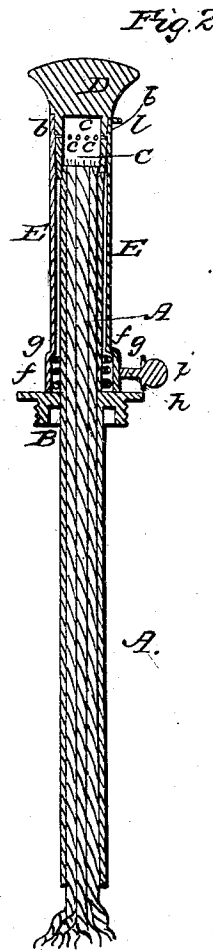


O. F. MORRILL.

Vapor Burner.

No. 27,732.

Patented April 3, 1860.



Witnesses
Attest
J. A. Hale Jr.

Inventor
O. F. Morrill

UNITED STATES PATENT OFFICE.

OSCAR F. MORRILL, OF BOSTON, MASSACHUSETTS.

VAPOR-BURNER.

Specification of Letters Patent No. 27,732, dated April 3, 1860.

To all whom it may concern:

Be it known that I, OSCAR F. MORRILL, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Burners for Hydrocarbon-Vapor Lamps; 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 a side elevation, and Fig. 2 a longitudinal and vertical section of a burner of my improved kind. Fig. 3 is a transverse section of it, such being taken through its jet holes and cut off, to be hereinafter described.

The nature of my invention consists in a new and useful arrangement of the operating devices of the cut off with respect to the heat absorbing button and wick tube of the burner.

The lamp burner described in the United States Patent No. 21,053 has a rotary cut off or valve applied in the upper end or part of the vapor generator and connected with the heat absorbing button; such cut off or valve being maintained in contact with its seat by means of a spring arranged between the head of the generator and the foot of the button. In this construction of a burner the cut off or valve can be rotated only by means of the button or a lever inserted in a projection therefrom. As a matter of course, when the button is in a heated state the fingers of a person cannot well be applied directly to it for the purpose of turning it. Consequently, whenever a valve or cut off is to be moved by such an application of the hand to a button so connected with the valve, the burner is liable to a serious objection. It is very desirable to have the cut off pressed against its seat by means of a spring in order that the valve may not only be kept tight under ordinary circumstances, but in case the lubricating matter between it and the seat should become stiffened or from any other cause the valve should adhere more or less to its seat it may be pressed away therefrom so as either to be turned easily or to freely admit between the rubbing surfaces a suitable supply of oil or lubricating fluid. For these purposes, as well as to render it easy to revolve the valve without liability of the fingers of the operator being burned, I not only arranged the cut off or valve so as to

encompass the wick tube or generator but I separate it entirely from the heat absorbing button and extend it downward to or nearly to the cap of the lamp and arrange around the wick tube and at the foot of the tubular cut off the spring by which the cut off is maintained in contact with its seat. This arrangement and construction enables me to apply an insulating stud or button or its equivalent to the lower part of the rotary valve or cut off tube, the said insulating device being for the purpose of enabling the tube to be either rotated or depressed as occasion may require. In consequence of such an application or arrangement of the insulating device it seldom or never can be so heated as to burn a person's fingers when applied thereto.

In the drawings, A, represents the wick tube as extending through and fastened to screw cap B, of a lamp fountain or reservoir. Such wick tube is surmounted by a vapor generator or holder C, which terminates in a flaring cap or heat absorbing button D, and has that part of its external surface which is below the button formed tapering so as to serve as a valve seat *a*, the same being as shown in Fig. 2. Surrounding the said valve seat and that part of the wick tube which is above the cap B, there is a tubular cut off, E, which is formed to fit to the valve seat and with a suitable number of orifices or jet holes *b, b, b*, (see Fig. 3) which are arranged relatively to sundry other jet holes *c, c, c*, as shown in said figure, these latter holes being made through the vapor generator.

In a recess *f*, formed within the lower part of the tube of the cut off, I place a helical spring *g*, the said spring being made to surround the wick tube and to rest upon the screw cap B, or a suitable shoulder arranged just above it. Furthermore, the upper end of the spring should press against the upper part of the recess so as to force the cut off close in contact with its seat. When the cut off is applied to its seat, the lower end of the tube should be elevated a short distance above the cap B, in order that the tubular cut off may be depressed preparatory to or while being rotated, the same serving to loosen the cut off from its seat whenever it may stick thereto or move with too much friction thereon. From the lower part of

the tubular cut off a projection or arm *h*, extends and carries an ivory insulator or knob, *i*, the same being as shown in the drawings. By means of the said insulator the cut off tube may be depressed and turned about as occasion may require, the extent of its rotary movements being limited by a stud or projection *l*, and a wide notch *n*. The said stud is made to project from the outer surface of the valve seat and into the notch arranged in the upper part of the cut off as shown in Fig. 1.

I do not claim such an arrangement of rotary valve or cut off, its spring and flaring button, in respect to each other and the top or upper part of a vapor generator as is ex-

hibited in the United States patent hereinbefore mentioned; but

What I do claim is—

My improved arrangement of the tubular rotary cut off and its elevating spring with reference to the jet tube and the screw cap; such cut off being provided or not as circumstances may require with a device for moving it both laterally and longitudinally and such device being arranged at its lower part, substantially as described.

OSCAR F. MORRILL.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.