

Vapor Burner.

Patented Oct. 20, 1857.



UNITED STATES PATENT OFFICE.

OSCAR F. MORRILL, OF BOSTON, MASSACHUSETTS.

AIR AND VAPOR BURNER.

Specification of Letters Patent No. 18,465, dated October 20, 1857.

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 a new and
5 useful or Improved Air and Vapor Burner; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

10 Figure 1, denotes a side elevation; Fig. 2, a top view, and Fig. 3, a vertical section of said burner.

In these drawings A, exhibits the stand for supporting the operative parts of my
15 apparatus. Underneath this stand or applied to its underside is a reservoir B, furnished with a hollow standard, C, extending above it vertically and having a flat tube, D, projecting from such standard horizontally,
20 and opening into a cylindrical air chamber, E, raised on the stand A. The upper part of this air chamber is furnished with a wire gauze disk or disseminator or cap F, around and above which there may be a perforated
25 or wire gauze chimney or tube G. One or more holes *a, a*, are constructed in the lower part of the air chamber so as to allow air to freely pass into the same.

The reservoir B, is furnished with an
30 auxiliary wick tube or burner, H, arranged directly underneath the flat tube, D, as shown in the drawings. This latter wick tube, as well as the tube, D, is provided with a wick to extend through it and down into
35 the reservoir as shown at *b, c*, in Fig. 3, the wick, *c*, for the tube D, being made to pass down through the standard C, and into the reservoir.

A regulating and extinguishing tube I,
40 surrounds and slides on the wick tube of the auxiliary burner and so that the upper end of the said tube I, (which should be open) may be moved up into contact with the underside of the tube, D, or may be adjusted
45 at such distance below the same as circumstances may require either to totally extinguish the flame of the auxiliary burner or increase or diminish the amount and action of the same, as may be desirable.

50 If we suppose the reservoir to be supplied with some liquid hydrocarbon capable of being easily vaporized by the action of heat, such liquid by capillary attraction will ascend both of the wicks and in case the
55 auxiliary burner be inflamed the heat arising from the flame will be absorbed by the tube

D. This will cause combustible vapor to be generated within the tube, D, and to flow from thence into the air chamber, E, and mix with the air that may be therein. This
60 mixture of air and combustible vapor will pass up through the wire gauze disseminator, and may be inflamed on the top surface of the same as air and gas are burned on an ordinary air and gas burner. 65

My apparatus for burning hydrocarbon vapors mixed with air will be found very useful for heating purposes, especially where it is difficult to obtain common olefiant or inflammable gas. By commingling air and
70 combustible vapor, and burning the same in manner as described, a more perfect combustion of the carbon takes place than is the case when the hydrocarbon vapor is burned on an ordinary gas-burner or wick and with-
75 out such admixture with air.

In burning essential oil of turpentine or various other fluids rich in carbon and possessing disagreeable odors, it is found that my apparatus will nearly if not entirely
80 destroy the odors, such being occasioned by the action of the air in promoting or facilitating combustion of the odorous vapors.

My peculiar arrangement of the parts composing my apparatus enables it to oper-
85 ate to good advantage as well as to be easily supplied with the liquid hydrocarbon, the standard, C, being furnished with a screw cap K, which being removed therefrom causes the standard to serve as a conductor
90 through which liquid may be poured into the receiver or reservoir.

I do not claim an air and gas burner consisting of a cylindrical tube having a wire gauze or perforated disk or disseminator, and
95 combined with a tube for supplying it with olefiant gas, and being open so as to allow common air to mix with the gas and pass through the disseminator with the gas and be burned therein. Nor do I claim combin-
100 ing with an air and gas burner a perforated or wire gauze chimney or tube to extend around and above the same, as this latter has been patented by William F. Shaw. Nor do I claim a hydrocarbon vapor burner
105 as made of a combination of an ordinary gas burner, a reservoir to hold the liquid hydrocarbon, a wick tube, and a secondary burner, or lamp to heat the wick tube and vaporize the liquid of its wick in order that
110 the vapor may pass into the gas burner, and there be burned unmixed with air, but

What I do claim is—

The combination of the air and vapor burner E F of the kind described with the reservoir B, wick holder C D, and a lamp or
5 burner to operate against the wickholder and vaporize the liquid of its wick, the whole being constructed so that such vapor may be discharged into the air receiving
10 chamber E and be mixed with air therein, and with such air be caused to flow upward

through the meshes of the disseminator F, so as to be burned thereon substantially as specified.

In testimony whereof I have hereunto set my signature this 26th day of June, A. D. 1857.

OSCAR F. MORRILL.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.