GEORGE T. PARRY.

Improvement in Vapor Burners.

No. 115,350. Patented May 30, 1871.

Fig. 1

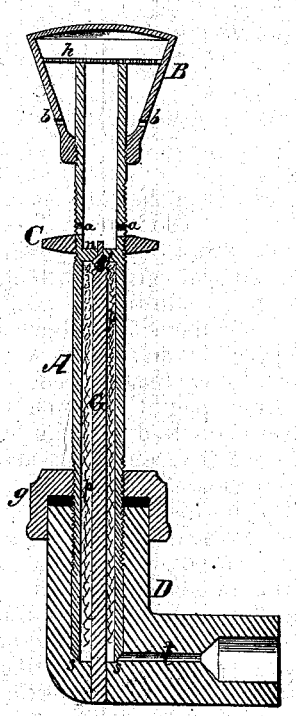


Fig. 2

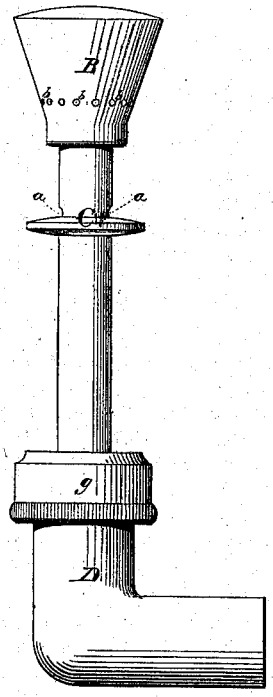
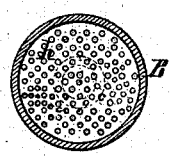


Fig. 3



Witnesses.
R. T. Campbell.
J. N. Campbell.

Inventor
Geo. T. Parry
by Munn & Fenwick & Lawrence

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

GEORGE T. PARRY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. 115,350, dated May 30, 1871.

To all whom it may concern:

Be it known that I, GEORGE T. PARRY, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and Improved Vapor-Burner; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a diametrical section through the improved burner. Fig. 2 is a side view of the burner. Fig. 3 is a horizontal section through the cone top taken above the perforated diaphragm therein.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to burners which are designed for burning the vapors of light hydrocarbon fluid. The nature of my invention consists in the combination of a vertically-adjustable burner-tube, a stationary internal stem, and regulating-valves, whereby the flow of the fluid into the burner can be nicely regulated, or, if desired, entirely cut off, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawing, A represents the burner-tube, which is beveled on its lower end, screw-threaded, and fitted into an elbow, D. This elbow has a small aperture, *t*, leading into its vertical portion, and at *s s* is a seat for receiving the lower beveled end of tube A when it is desired to cut off the flow of burning-fluid into this tube. The tube A is vertically adjustable, and, at the upper end of its elbow D, it is provided with a packing-box or cap, *g*, shown in Fig. 1. The upper end of the tube A enters and is secured tightly into an inverted conical frustum, B, which has secured into it, on the upper terminus of said tube, a horizontal perforated diaphragm, *h*. Beneath the frustum B the external surface of the tube A is screw-threaded, and on this screw-threaded portion an adjustable collar, C, is applied and used for closing or partially closing orifices *a a*. Rising from the elbow D through the center of the tube A, and permanently secured to said elbow, is a stem, G, which terminates at a point just below the air-inlets *a a* in a conical valve, *s'*, which is adapted to a valve-seat, *n*, in tube A. All that portion of the burner above the valve-seat *n* forms a vapor-receptacle; and all that portion of the tube A below the valve-seat receives the stem G and a porous packing, which latter will cause the ascent of fluid through valve-opening *n* into the vapor-receptacle, where it is volatilized and burned at the apertures *b b*.

To light the burner the tube A is slightly rotated about its axis, which causes it to rise and open the valves above and below, and thus form a communication between the vapor-chamber above the valve-seat *n* and the fluid below it. A light is then applied to the frustum, and when the vapor therein is sufficiently expanded it will issue from the apertures *b b* and ignite. The heat which is now generated by the burner-jets will continue to volatilize the fluid and keep up a constant supply of vapor. The collar C is adjustable for allowing more or less air to enter the vaporizing-chamber and mix with the vapor therein. The tube A is adjustable for regulating the flow of fluid into the burner or for entirely closing the inlet-passage *t*. The perforated diaphragm *h* on top of the tube A allows the vapor to pass up and then down through it. This diaphragm becomes highly heated, and assists in the rapid conversion of the vapor into gas; and when the light is extinguished the diaphragm will retain for a long time its heat, which will generate gas in the frustum and render the burner easily relighted.

Having described my invention, what I claim is—

The adjustable burner-stem A, the stationary solid valve-stem G, and the valve and valve-seats *n s*, combined to operate substantially as described.

GEORGE T. PARRY.

Witnesses:

HENRY E. MOSS,

EDWARD PARRY.