(No Model.)

M. L. BEST.

VAPOR BURNER.

No. 261,423. Patented July 18, 1882.

Fig. 1.

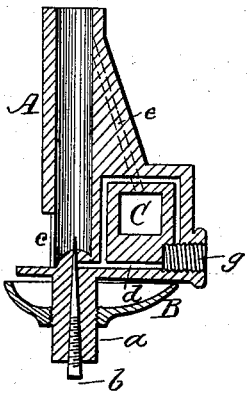


Fig. 2.

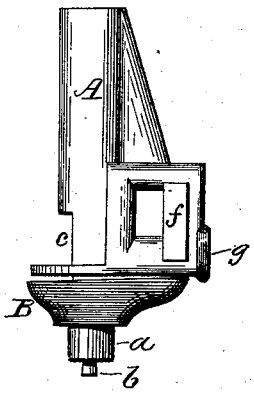


Fig. 3.

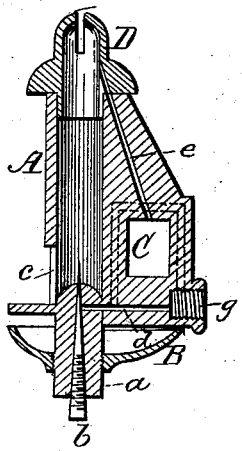
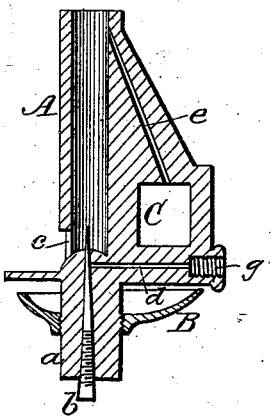


Fig. 4.



Witnesses.
Franck L. Durand
Wm. L. Sheidon.

Inventor.
Martin L. Best.
per Chas. H. Fowler.
Attorney

UNITED STATES PATENT OFFICE.

MARTIN L. BEST, OF CANTON, OHIO, ASSIGNOR OF ONE-HALF TO LEVI L. MILLER, OF SAME PLACE.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 261,423, dated July 18, 1882.

Application filed May 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, MARTIN L. BEST, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Vapor-Burners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 is a sectional elevation of a vapor-burner constructed in accordance with my invention; Fig. 2, a side elevation of the same; and Figs. 3 and 4, sectional elevations, showing modifications of my invention.

The present invention has relation to certain new and useful improvements in vapor-burners; and the object thereof is to secure a steadiness of flame with economy of gasoline, and at the same time render the burner simple in construction and capable of being manufactured at a greatly reduced cost. These several objects I attain by the construction substantially as shown in the drawings, and as hereinafter described and claimed.

In the accompanying drawings, A represents the burner-tube, having at its bottom or lower end an extension, *a*, screw-threaded a portion of its length for connecting thereto a suitable drip-cup, B, for catching the gasoline when first starting the burner, the gasoline therein being set on fire for the purpose of generating the gas.

The extension *a* has a conical passage, in which is fitted a needle-point, *b*, of the ordinary construction, having screw-threads near its lower end to engage with similar screw-threads in the lower end of the conical passage, whereby the flame, as well as the sub-jet in the retort, is regulated by moving the needle-point either up or down, as the case may be.

The burner-tube A, at its base, has an opening, *c*, for the admission of air, and at the opposite side of the tube, and also at its base, is the furnace C, provided with a passage, *d*, which communicates with the conical passage in the extension *a*. This passage *d* may extend entirely around the furnace C, as shown in Figs. 1 and 3, or simply on a straight horizontal line, as indicated in Fig. 4.

A passage, *e*, communicates at its lower end with the furnace C and at its upper end with a suitable burner-tip, D, or with the burner-tube A near its upper end, as preferred.

The furnace C, if desired, may be provided with wings *f* to partially close the sides thereof in order to retain the heat to more effectually make the gas below the burner-tip.

It will be noticed that the furnace is at the base or lower end of the burner-tube instead of at or near the top, thereby preventing any heated air arising from the furnace from striking the flame, which would cause it to flicker or burn unsteadily.

The passage *e* is not vertical, but is inclined, as shown, thereby throwing the heat directly at the end of the pipe, where it couples with the screw-nipple *g*, said passage carrying the surplus gas from near the upper end of the burner-tube A or from the burner-tip D into the furnace C, where it is consumed for generating more gas.

The advantage of taking the gas from the upper end of the burner-tube, or at a point above described, and conducting it through the inclined passage to the furnace, is that a much purer gas is obtained, making a cleaner and higher degree of heat, and burning with a bluer blaze.

The passage *d*, as will be seen, extends directly to the needle-point *b*, thereby consuming the gas at the point of vaporization or where it is manufactured, thus producing a superior and stronger illuminating-gas.

A vapor-burner constructed in accordance with my invention has not only the above-mentioned advantages in producing a superior light, but the burner, being simple in construction, can be manufactured at a comparatively small cost, and will not easily get out of order.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a vapor-burner, the combination, with the furnace C, arranged at the lower end or

base of the burner-tube A, of the inclined passage *e*, communicating with said furnace and at or near the upper end of the burner-tube with the interior thereof or with the burner-tip, substantially as and for the purpose set forth.

2. In a vapor-burner, the furnace C, passages *d e*, and drip-cup B, all constructed and arranged as shown and for the purpose described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MARTIN L. BEST.

Witnesses:
ABNER MCKINLEY,
A. C. TONNER.