S. S. GRAY.

Vapor-Burner.

No. 160,670. Patented March 9, 1875.

FIG. 1.

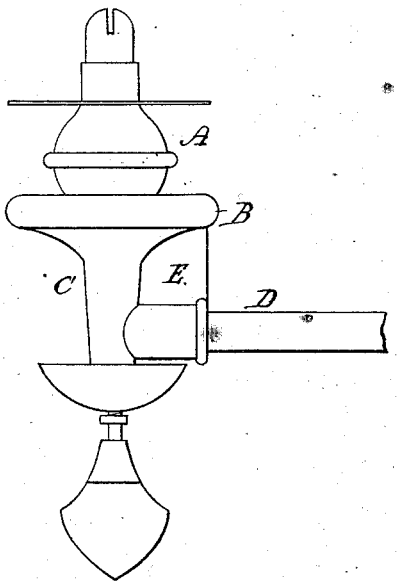


FIG. 2.

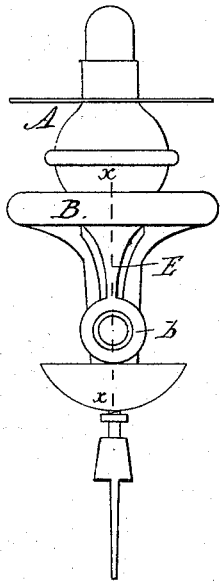


FIG. 3.

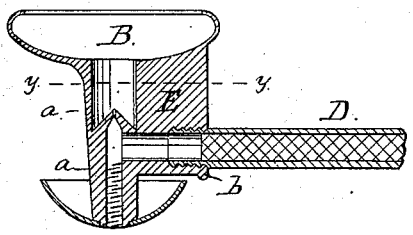
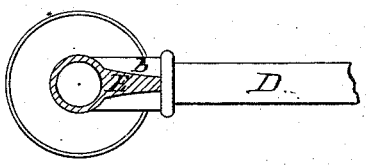


FIG. 4.



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UNITED STATES PATENT OFFICE.

SOLOMON S. GRAY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND ALLEN F. GRAY, OF SAME PLACE.

IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. **160,670**, dated March 9, 1875; application filed October 20, 1874.

To all whom it may concern:

Be it known that I, SOLOMON S. GRAY, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Vapor-Burners, of which the following is a specification:

This invention relates more particularly to the vapor-burner embraced in the Letters Patent of the United States issued to Albert H. Watkins and Joseph Benson, dated February 18, 1874, No. 136,022; and it consists in an improved and additional connection between the flaring cup of the burner-tube, on which impinges the supplementary jets of the burner, and the tube through which the naphtha is fed to the burner-tube, whereby a greatly-increased heat is communicated to the said feed-tube for the naphtha, and as a consequence an increased generation of gas from the naphtha obtained.

In the accompanying plate of drawings, Figures 1 and 2 are elevations from different sides of a naphtha-burner with my improvement applied. Fig. 3 is a sectional view along line *x x*, Fig. 2. Fig. 4 is a sectional view along line *y y*, Fig. 3.

In the drawings, A represents a naphtha-burner of the kind hereinbefore referred to; B, the flaring cup against which the supplementary jet or jets of the burner impinge for the purpose of heating the burner-tube *c*, and thus, through it communicate the heat to the naphtha-feed tube D for generating gas from the naphtha passing through it to be burned at the burner-tip; E, my improved and additional connection between flaring cup B and the naphtha-feed tube D. This connection is in the form of a wing, and is cast or made in one piece of metal, with the burner-tube parts *a* and *b* and the flaring cup B, and extends from the under side of the cup B to the part *b* of the burner-tube, which receives the naphtha feed-tube, making a continuous connection between the two in addition to the ordinary connection by the part *a* of burner-tube *c* alone. This wing E obviously secures an additional communication of heat to the feed-tube, and thus a greater, better, and more perfect generation of gas from the naphtha, to be burned at the burner-tip.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with the cup B and feed-tube D, of the wing E, connecting the cup and tube, substantially as and for the purpose described.

The above specification of my invention signed by me this 14th day of September, A. D. 1874.

SOLOMON S. GRAY.

Witnesses:
EDWIN W. BROWN,
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