R. F. DANFORTH.
Vapor-Burner.

No. 207,258. Patented Aug. 20, 1878.

Fig. 1.

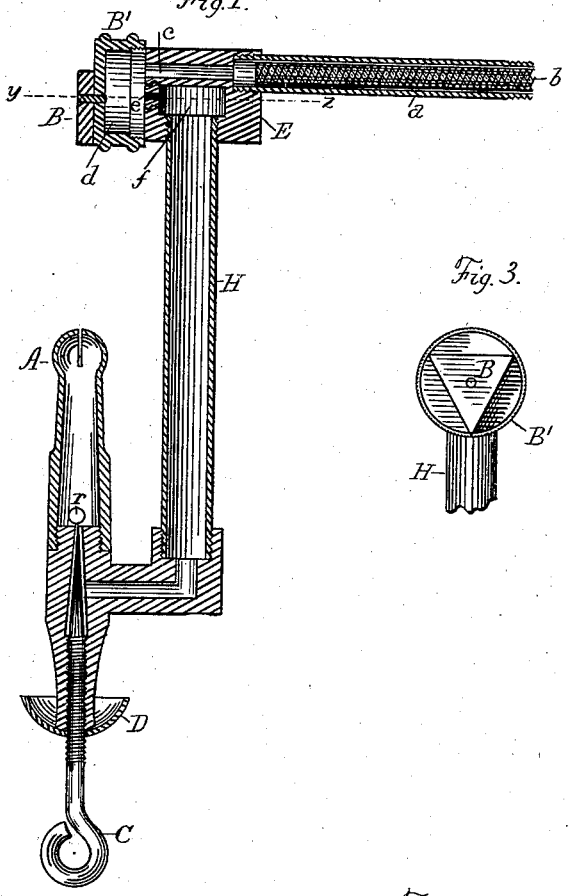


Fig. 2.

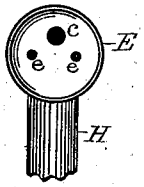


Fig. 3.

Fig. 4.

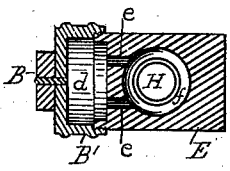
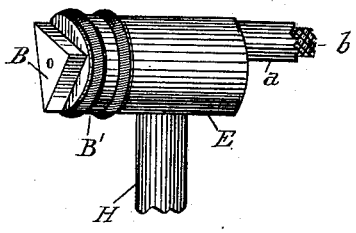


Fig. 5.



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UNITED STATES PATENT OFFICE.

RODERICK F. DANFORTH, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. **207,258**, dated August 20, 1878; application filed June 20, 1878.

To all whom it may concern:

Be it known that I, RODERICK F. DANFORTH, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and useful Improvement in Vapor-Burners, of which the following is a specification:

My invention relates to a burner for illumination from the vapor of naphtha or any of the light products of petroleum.

The invention will first be described in connection with the accompanying drawings, making part of this specification, and then pointed out in the claims.

In the accompanying drawing, Figure 1 is a vertical section of a vapor-burner embodying my improvement, one of the vapor-openings being shown by breaking part away; Fig. 2, a front or end view of the generator, from which the heater-cap is removed; Fig. 3, a front view of the heater-cap. Fig. 4 is a transverse section of the generator and heater, taken through *y z*, shown in Fig. 1. Fig. 5 is a perspective view of heater and generator.

A represents the burner, the flame-slot in which should be adjusted to present the flame sidewise to the end of the heater B. The needle-key C and saucer D operate in the usual and well-known manner. The supply-pipe *a* is filled with packing *b* of any suitable material, preferably cotton wicking, and screws into one end of the generator E, from whence an oil-conduit, *c*, of small capacity, leads horizontally through to the other end, connecting with the vapor-generating chamber *d*, which is formed by the hollow heater-cap B′ screwing onto the end of the generator. Two small horizontal vapor-openings, *e e*, lead from the vapor-chamber to an enlargement, *f*, formed within the generator below the conduit *c*, to which enlargement a pipe, H, connects and leads to the burner below.

The heater B is preferably made triangular in shape, and is preferably pivoted to the heater-cap, so as to permit one of the angles or points to be adjusted directly over the flame-slot of burner after the cap has been screwed up to position on the generator.

The parts of the burner constituting the generator and heater are constructed of such thickness of metal as will best serve to retain heat.

The operation of the burner is as follows: The oil is first allowed to overflow through the hole *r* into the saucer, and when lit heats the burner and heater and vapor-generating chamber, the resulting vapor passing through the two openings *e e*, and thence to the burner, mixing with air entering at holes *r*. After the vapor once forms the flame is presented to the generator, as will be seen, in a manner to maintain the heat and continue the generation of vapor, and yet not interfere in the slightest with the light.

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

1. The combination, in a vapor-burner, of packed supply-pipe *a*, generator E, having in the upper part the horizontal oil-conduit *c* and in the end the vapor-chamber *d*, formed by the hollow heater-cap B′, the two horizontal vapor-openings *e*, placed below and on each side of the oil-conduit, and connecting with enlarged chamber *f*, and the pipe H, leading from said chamber to the burner, as shown and described.

2. In combination with the vapor-burner, the triangular-shaped heater B, pivoted to the detachable heater-cap, as and for the purpose specified.

RODERICK F. DANFORTH.

Witnesses:
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