E. EVANS.

Gas-Burner.

No. 160,758. Patented March 16, 1875.

Fig. 1

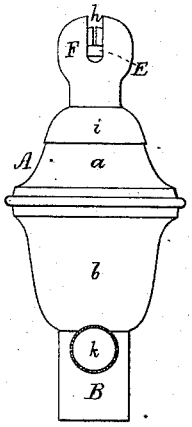


Fig. 2

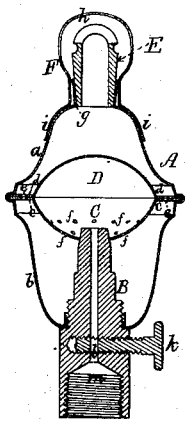


Fig. 3

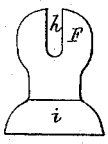
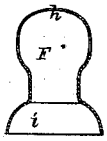


Fig. 4



Witnesses
S. N. Piper
L. N. Holler

Edwin Evans
by his attorney
R. H. Eddy

UNITED STATES PATENT OFFICE.

EDWIN EVANS, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **160,758**, dated March 16, 1875; application filed July 7, 1874.

To all whom it may concern:

Be it known that I, EDWIN EVANS, of Lynn, of the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Gas-Burners; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a side elevation, and Fig. 2 a vertical and transverse section, of one of my improved burners. Fig. 3 is a side view, and Fig. 4 a vertical section, of its hollow and slotted cap or head and the bell-shaped base thereof.

The burner-case A is composed of two hollow bell-shaped portions, *a b*, arranged as shown, and united at their bases. Extending upward within the case from its bottom is an induct, B, which, screwed into the case, extends, at its upper end, through a concavo-convex strainer, C, provided with an encompassing flange, *c*. Upon the said flange *c* a similar flange, *d*, of an unperforated dome or deflector, D, is placed. Holes *f f* are made through the strainer, and also through the two flanges *c d*, their holes being shown at *e e*, the series of which is to extend around the flanges. The composition or mineral tip of the burner (seen at E) is fitted like a cork into the mouth *g* of the upper part of the burner-case. It is encompassed by a hollow spherical or spheroidal head, F, slotted crosswise, as shown at *h*, and provided with a bell-shaped base, *i*, to rest upon and fit to the upper part *a* of the burner-case. This head or hood not only serves to modify the flame or improve its light-giving property, but as a means of intercepting heat from the flame and conveying it down to the burner-case, in order to heat the gas while it may be passing through the case. The mineral tip, being a bad conductor of heat, prevents much heat from the flame being absorbed by the case. The metallic head, when used with the mineral tip, thus serves as a conductor of heat. A screw, *k*, perforated diametrically with a hole, *l*, is screwed transversely into the conduit B, above its female screw *m*. This screw answers as a cock to regulate the flowage of gas through the conduit. By providing the stem of the cock with a screw, and screwing it into the conduit, the stem will be prevented from accidentally falling out of its socket, and may be turned so as to let the gas flow through the hole *l*, the passage of the gas being diminished or increased by the transverse and longitudinal movements of the cock.

I do not claim a single perforated diaphragm or hollow cone, arranged in a burner-case. Nor do I claim a cylindrical or a conical stem, perforated or slotted, and used as a cock for a gas-burner. I add to it the screw, and form in the induct of the burner a female screw to receive it, in which case the cock, while being turned, has two motions, one transversely and the other longitudinally, it being kept in place by the screws.

The flanged deflecting-dome and the flanged strainer, and the series of holes through the flanges, operate to excellent advantage in diffusing and checking the gas, in order to produce steadiness of the flame under the usual variations of pressure.

In the said gas-burner, I claim as my invention as follows:

The domes C D, flanged and arranged, and having holes *e* in the two flanges, and applied to the induct B, all as described, in combination with the bell *b*, flanged at its larger base, and with the bell *a*, flanged, and having its flange to clasp around the flanges of bell *b*, and of the domes, so as to make therewith a tight joint and connect together said bells and domes, all as specified and represented.

EDWIN EVANS.

Witnesses:

R. H. EDDY,

J. R. SNOW.