

A. GEIGER.
SELF GENERATING GAS BURNER.

No. 28,467.

Patented May 29, 1860.

Fig. 1.

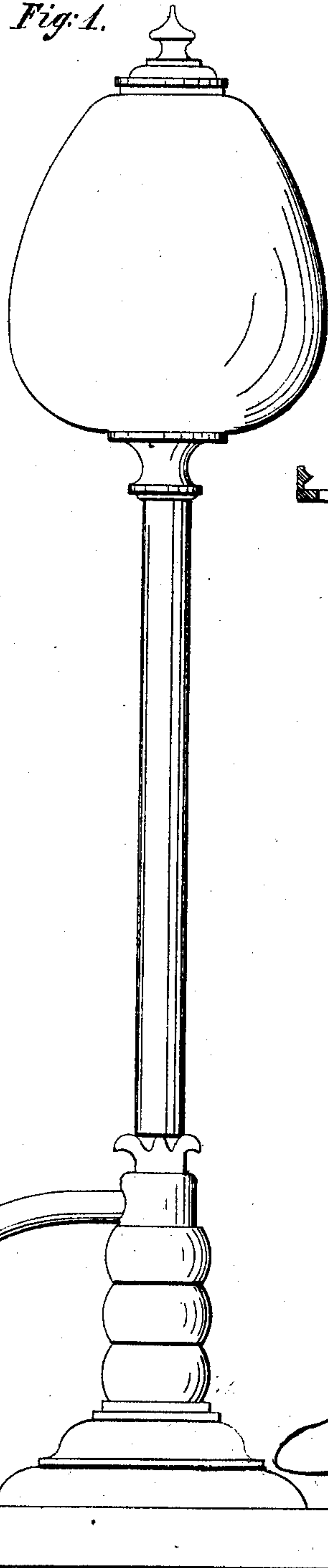
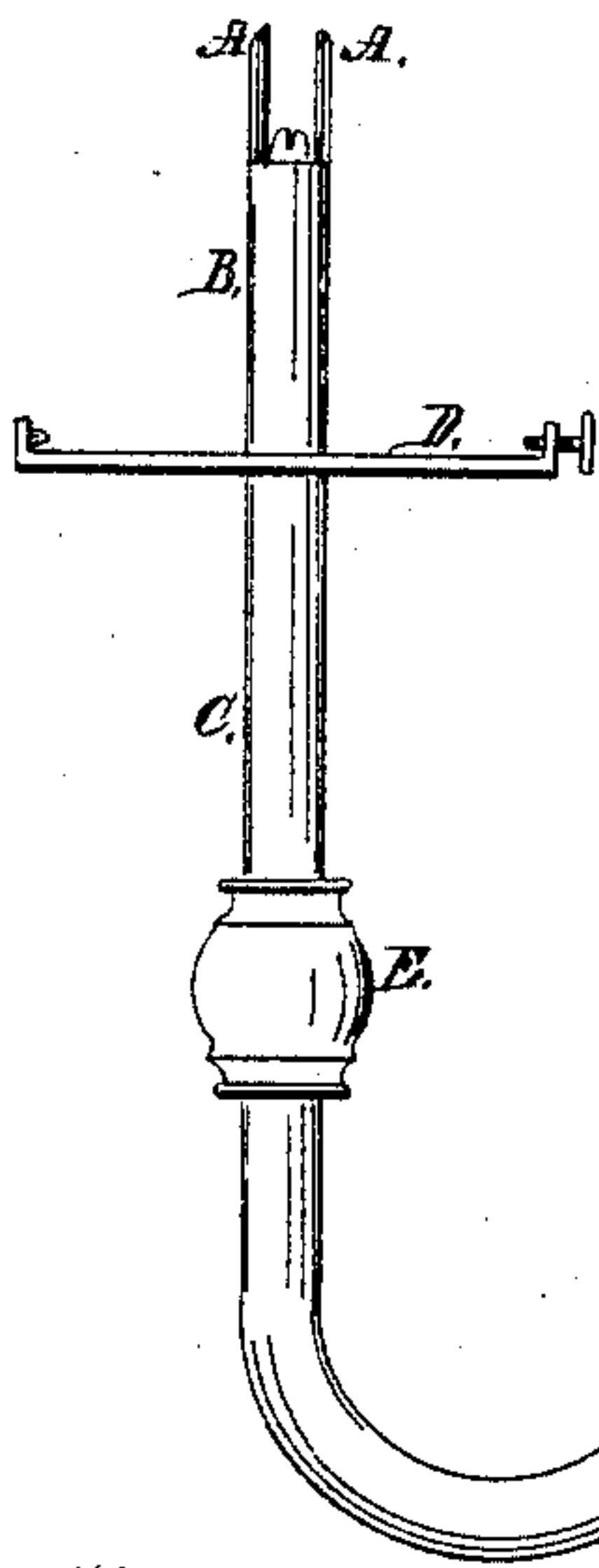
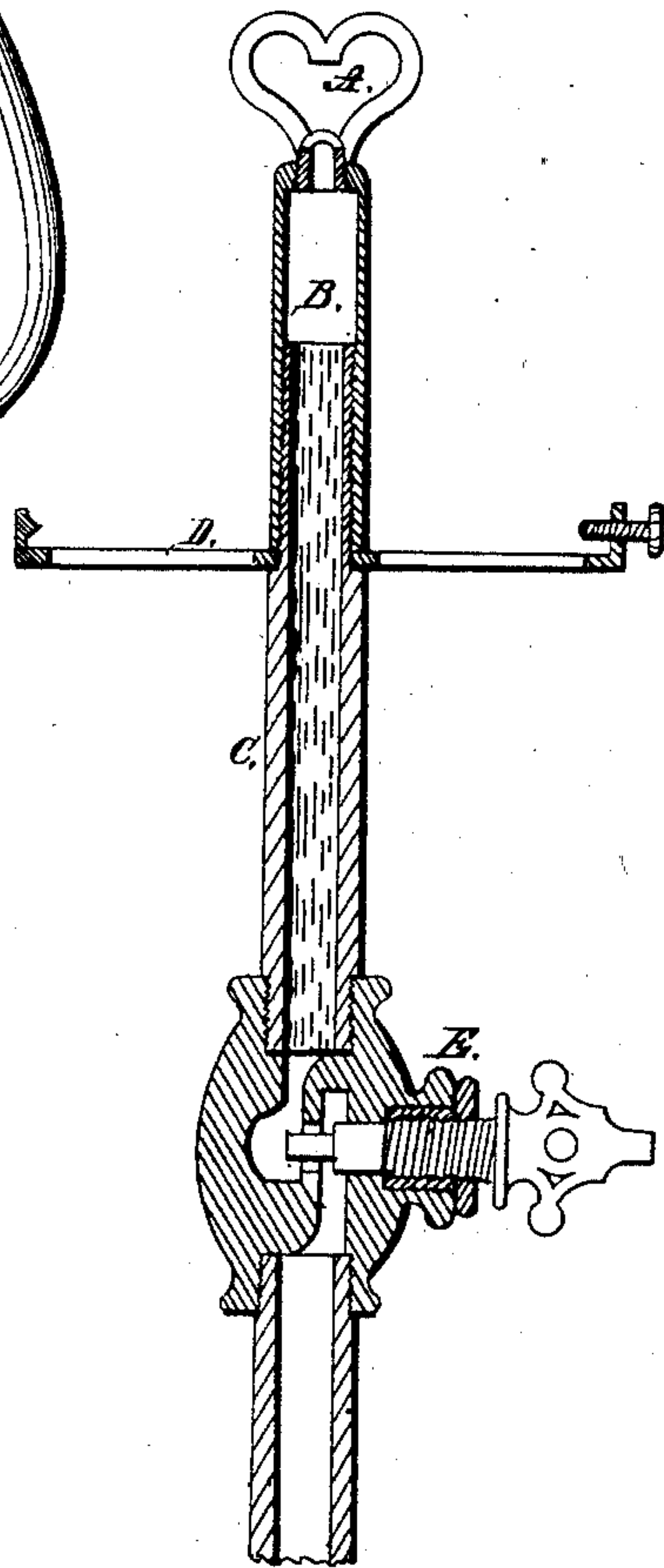


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALBERTUS GEIGER, OF DAYTON, OHIO.

VAPOR-LAMP.

Specification of Letters Patent No. 28,467, dated May 29, 1860.

To all whom it may concern:

Be it known that I, ALBERTUS GEIGER, of Dayton, county of Montgomery, State of Ohio, have invented a new and useful Improvement in Self-Generating Gas-Burners; and I do hereby declare that the following is a full and complete description thereof, reference being had to the accompanying drawings and letters of reference marked thereon, making a part of this specification.

My invention consists in certain new arrangements and devices employed in the construction of hydrocarbon gas generating burners, by which I am enabled to secure a more equable, constant and regular supply of gas to the burner, more perfect and thus a more luminous combustion of the gas, a wider display of flame, together with a more neat, convenient and less cumbersome form of lamp.

To enable others of competent skill to make and use my invention I proceed to describe its construction and mode of operation.

Referring to the annexed drawings, Figure 1, is an elevation of my improved self generating gas burner, as it may be connected with an elevated vessel or reservoir containing the volatile hydrocarbon burning fluid. Fig. 2, is a vertical section of the tube and valve cock, also exhibiting a side elevation of the open heart shaped extension of the tube, hereafter to be described, also showing a section of the open circular base or step for the glass globe.

Like letters of reference indicate corresponding parts in the different drawings.

A represents the open heaters, one of which is carried up on either side of the flame. These are heart shaped and made with a corresponding heart shaped opening for the purpose of giving, in connection with the other features to be described, the proper form, breadth and intensity to the flame. They are cast with, and are extensions of the upper or vaporizing tube, for the purpose of communicating the heat by conduction more readily to the above named metal tube in which the vaporization of the fluid takes place.

B is the vaporizing chamber, furnished at its upper extremity with an orifice between the heaters for the escape of the combustible gas. The lower end is tapped with a thread by which it is connected with the wick tube C. This wick tube C containing the wick is

reduced near its upper end and cut with a thread to match and enter the upper or vaporizing tube above-named. This reduced part affords an annular shoulder which is adapted to the round opening or center of the globe holder.

D is the globe holder furnished with the usual flanges or fingers and screw for retaining the globe, and having a circular open center ring which passes freely over the reduced and screw cut part of the wick tube, until arrested by the shoulder above named. At this point it is held securely by the lower end of the upper or vaporizing tube when the same is screwed down to its place.

E is the valve cock. It may be of any approved pattern which will secure a minute and regular flow of the fluid to be vaporized. It connects by a screw with the lower end of the wick tube, also with the conduit from the elevated reservoir or vessel containing the fluid to be vaporized and burned.

In operating my improved burner, it is attached as above described to the vessel containing the volatile hydrocarbon or burning fluid. The wick tube is to be filled with ordinary candle wicking, the object of the wicking being to regulate the supply of fluid to the vaporizing chamber more perfectly. The globe holder is then placed in position resting upon the shoulder before described and the vaporizing tube screwed down securely upon it, by which it is held firmly in place.

When the lamp is required for use, open the valve slightly admitting a small portion of the fluid up through the wick into the vaporizing chamber; have a sponge or clump of fine wire attached to a small rod, dip in alcohol, ignite and hold against the vaporizing tube, until it becomes heated, and until the gas which will presently be generated begins to escape and show a luminous flame from the orifice; after which it may be removed and the lamp will continue to burn generating its own gas as long as the supply of fluid is continued.

The peculiar effect produced by my device is accomplished by the use of the open heaters cast upon and being made part of the vaporizing tube. I am aware that heating plates of various forms have been employed, and that these have in some instances been cast in one piece with the vaporizing tube, but I am not aware that they have ever before been made with an opening for the

purpose of admitting the air to the base of the flame in order to consummate the perfect and luminous combustion of the gas as is done by my invention. I am also aware
5 that heaters have been made by the use of wire bows, placed upon each side of the flame; but these, by not having connection with the vaporizing tube except by contact, the conduction of heat is interrupted and a
10 sufficient amount of heat for the vaporization of the fluid fails to be conducted to the vaporizing chamber.

The form of heater herein described I have found most desirable, but I do not wish
15 to confine myself exclusively to any particular form of open extension heater, as many modifications would readily be suggested, to which my invention would apply.

I do not wish to be understood as claiming the valve E, the conduit tube C, vaporizing chamber B, or heaters A when taken separately, but

Having described the construction of my invention and its mode of operation, what I claim as my invention and desire to secure
25 by Letters Patent is—

The combined arrangement of the vaporizing tube, B, as constructed, and the conducting or wick tube, C, together constituting an efficient hydrocarbon gas generator—
30 with the globe holder, D, by which the globe holder is rigidly secured for use as described.

ALBERTUS GEIGER.

Witnesses:

CHARLES L. FISHER,
WM. CLOUGH.