T. G. CLAYTON.

VAPOR GAS BURNER.

No. 28,258. Patented May 15, 1860.

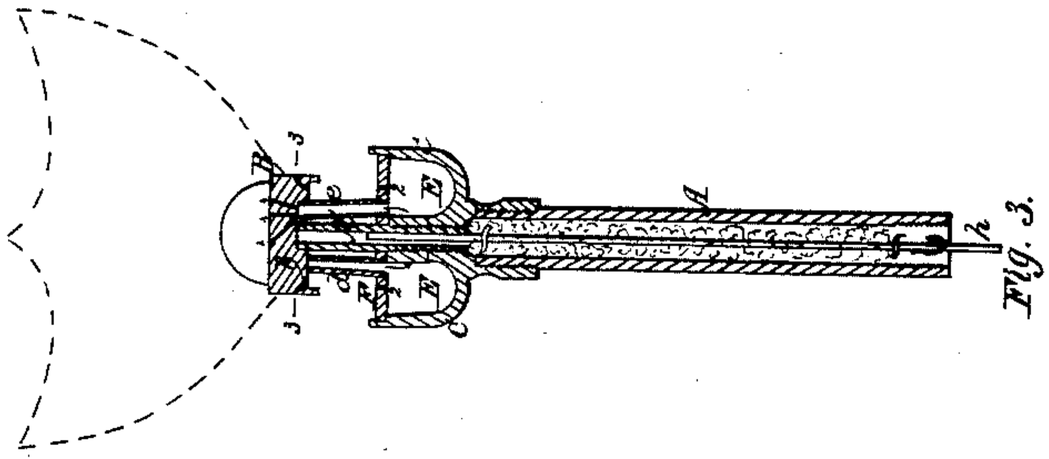

Fig. 3.

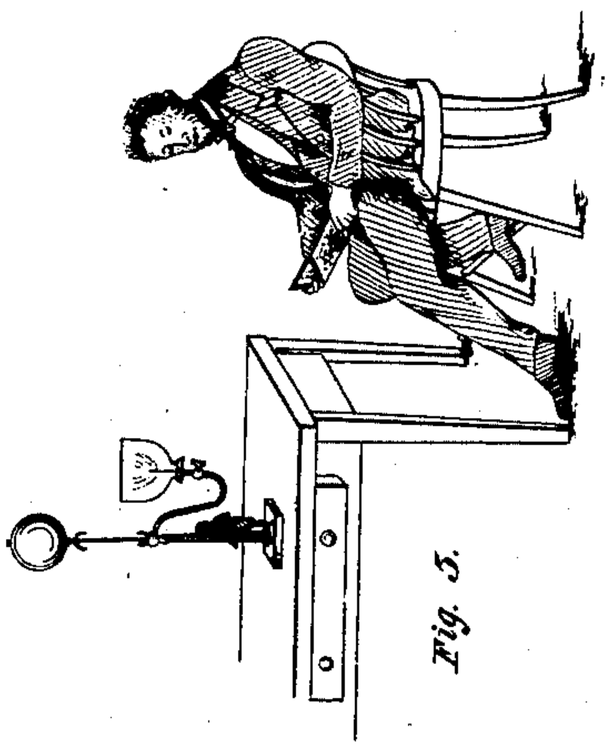

Fig. 5.

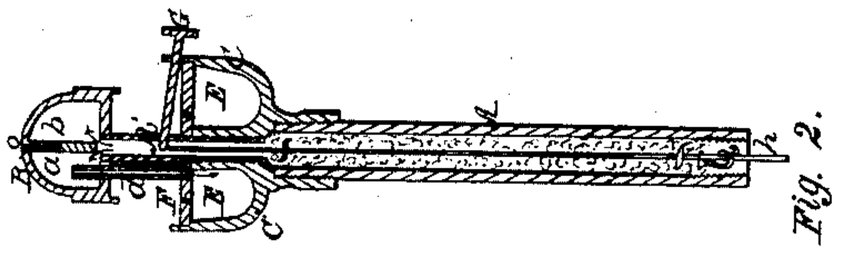

Fig. 2.

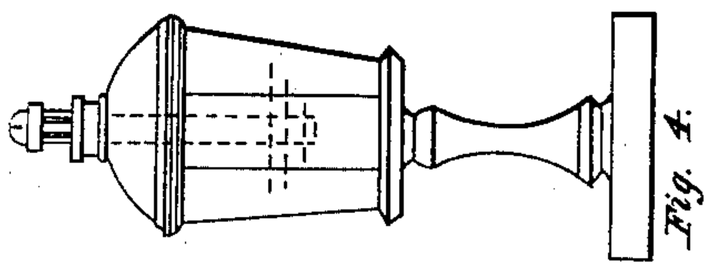

Fig. 4.

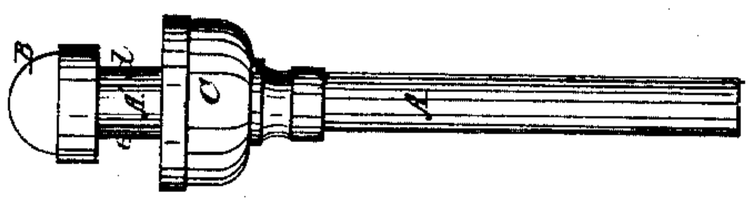

Fig. 1.

Witnesses,
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UNITED STATES PATENT OFFICE.

T. G. CLAYTON, OF WASHINGTON, DISTRICT OF COLUMBIA.

VAPOR-LAMP.

Specification of Letters Patent No. 28,258, dated May 15, 1860.

To all whom it may concern:

Be it known that I, T. G. CLAYTON, of the city and county of Washington, in the District of Columbia, have invented a new and Improved Vapor Gas-Burner, to be known and used as "Clayton's Unobstructed-Flame Vapor Gas-Burner;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

In the drawings, similar characters refer to like parts.

Figure 1 is a view in side elevation. Fig. 2 is a vertical section across the flame. Fig. 3 is a vertical section parallel with the flame. Fig. 4 represents the burner attached to an ordinary lamp. Fig. 5 shows the same attached to the ordinary apparatus used with vapor burners.

I will describe the construction and operation of my invention, in order that those skilled in the art may be enabled to make and use it.

The nature of my invention consists in converting the fluid into vapor or gas below the flame, by means of the burner hereinafter described, and the use of one, two, or more jets of the same vapor or gas burned below the generator and burner as herein set forth and described.

In the construction of my vapor gas apparatus A, A′ represent the fluid pipes. B the generator and burner combined, and divided into two chambers *a* and *b*, by partition *c*. The slot for burning the gas is cut through the shell of the burner B down into the partition *c* as deep as is necessary for the slot to descend; that part of the partition *c* below the slot is left solid, through this part are small holes *l*, *l*, *l*, leading up to the slot *o* where it the gas is burned. *d* the pipe for conveying the gas from generator or burner down into gas-chamber C, the inner portion of which chamber is represented at E. *e* the small tube for conveying the gas to the burner from chamber C. C the gas chamber for the reception of gas or vapor: the top F of this chamber is attached by a screw, and can be readily removed for facility in cleaning. The pipes *d* and *e* are screwed into this plate F, and also into the bottom of the generator and burner B, or they may be attached thereto in any suitable manner: the pipe *d* extends up into chamber *a* a short distance. A hole is then made through the partition *c* (below the slot) forming the connection between the two chambers *a* and *b*. In plate F are holes 2 (see Figs. 3) for the escape of gas: 3 are holes in the rim of the generator and burner B leading up to the lower and outer portion of the light-flame.

My burner as thus constructed can be readily applied to the ordinary apparatus used with vapor burners, or I may dispense with tubes *d*, and *e*, and plate F and use the partition *c* for conveying the gas to the slot and down through the bottom of the burner to be burned below the burner B, in chamber C, without having in said chamber the plate F. A hole is made through the walls of partition *c* on each side to let the gas escape from chambers *a*, and *b* into slot *c*, as seen in Fig. 2, Fig. 4. By a burner thus constructed, I can bring the fluid up directly to the flame, and I can put the packing if needed in chambers *a*, and *b*. The screw G is for bringing the fluid from the pipe A′ into the cup H formed by the upper portion of the chamber C.

To facilitate the flow of fluid to key G, I insert pipe *h* in the center or on the side of the packing which pipe descends below the packing and runs up to key G which fits into the upper end of pipe *h*. By this pipe I get the fluid up to the cap in a much shorter time than if it were allowed to pass up through the packing, and which greatly facilitates the lighting of my apparatus.

In operating my invention: As the fluid passes up in the fluid pipes A and A′, through pipe *h* I turn the screw key G permitting a small quantity of the fluid to escape into the cup H, the key is then closed, and the fluid in pipe A′ follows the direction shown by the arrows in Fig. 2, and enters the chambers *a* and *b* (where it is converted into vapor or gas,) by means of the ignited fluid in the cup H: the gas then passes from chambers *a* and *b* through tube *d* down into chamber E, then up from said chamber through tube *e*, and through small holes *l*, *l*, *l*, in partition *c*, to slot *o* where it is ignited, forming the light-flame or it may pass through the partition *c* as stated. The light-flame creates almost heat enough to continue the generation of the gas;—by the jets of gas issuing from the holes 2 in plate H, and immediately under the generator and burner B, I am enabled (in connection

with the light-flame) to continue the generation of the gas as fast as it can be consumed.

By this means I am enabled to produce a brilliant light unobstructed by anything above or beside the flame.

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

1. The converting of the fluid into gas, or vapor, below the illuminating flame by means of the combined generator, and burner B, and the jets of burning vapor, below said burner and generator, the whole operating as described and for the purposes set forth.

2. The burner-and-generator B, having the gas-chamber C below it, constructed, and operating substantially as set forth.

3. The use of jets of gas from chamber C, or burner B, for making an oxy-hydrogen flame for heating below the combined generator-and-burner B, as set forth.

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Witnesses:
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