

(No Model.)

J. KIDD.

CARBURETING ATTACHMENT FOR GAS FIXTURES.

No. 333,862.

Patented Jan. 5, 1886.

Fig. 1.

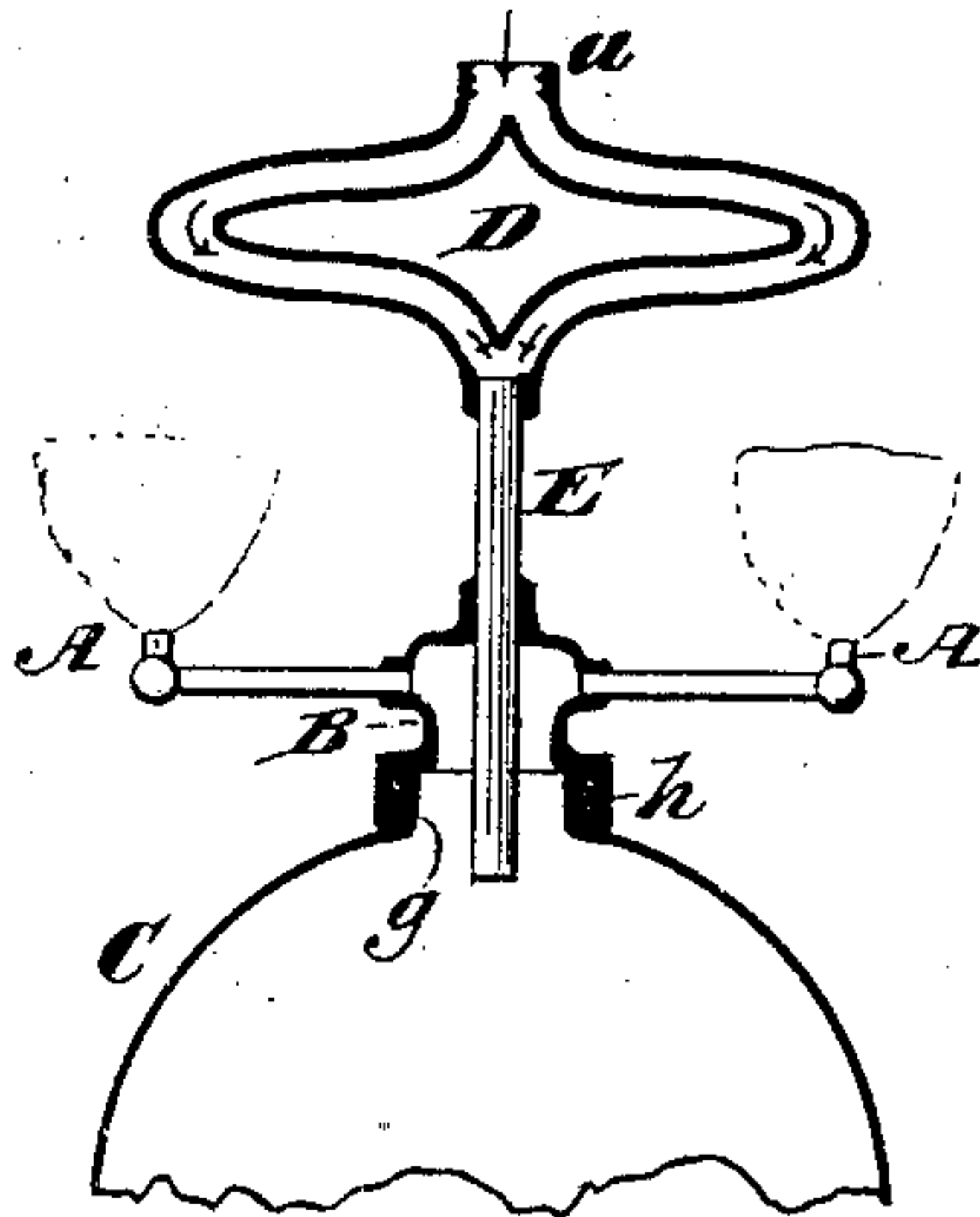


Fig. 2.

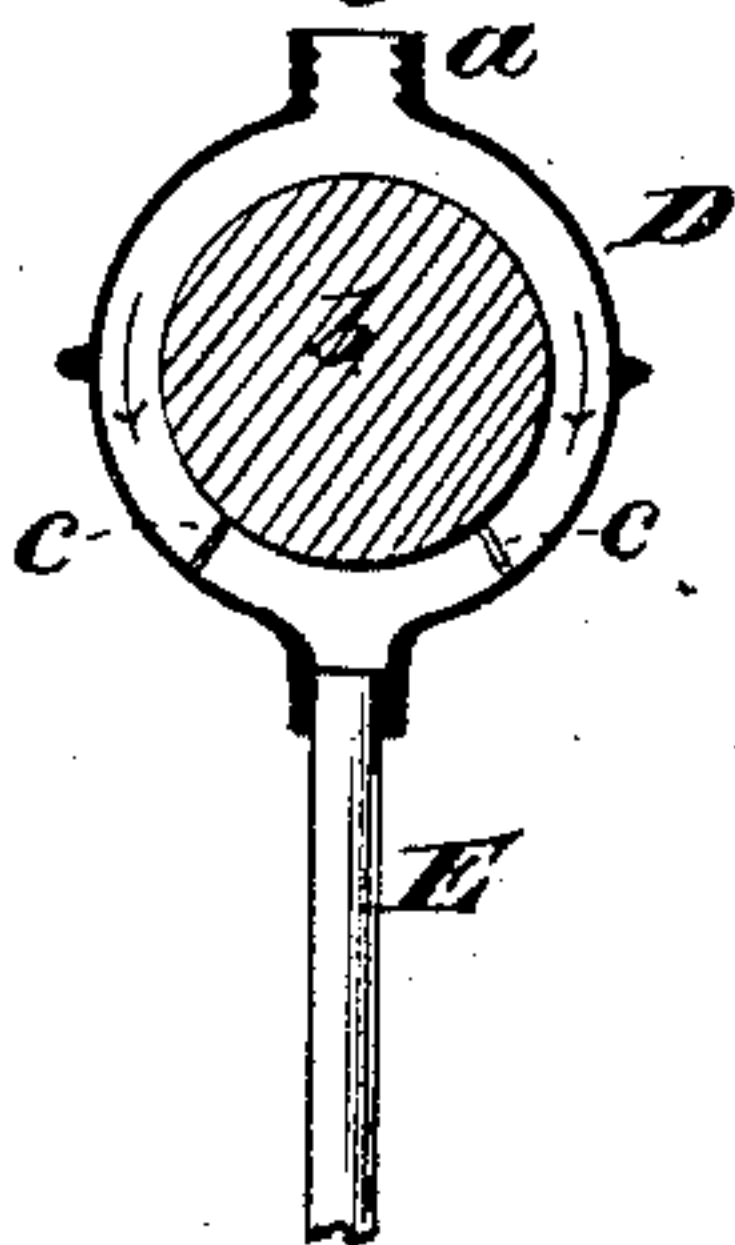


Fig. 3.

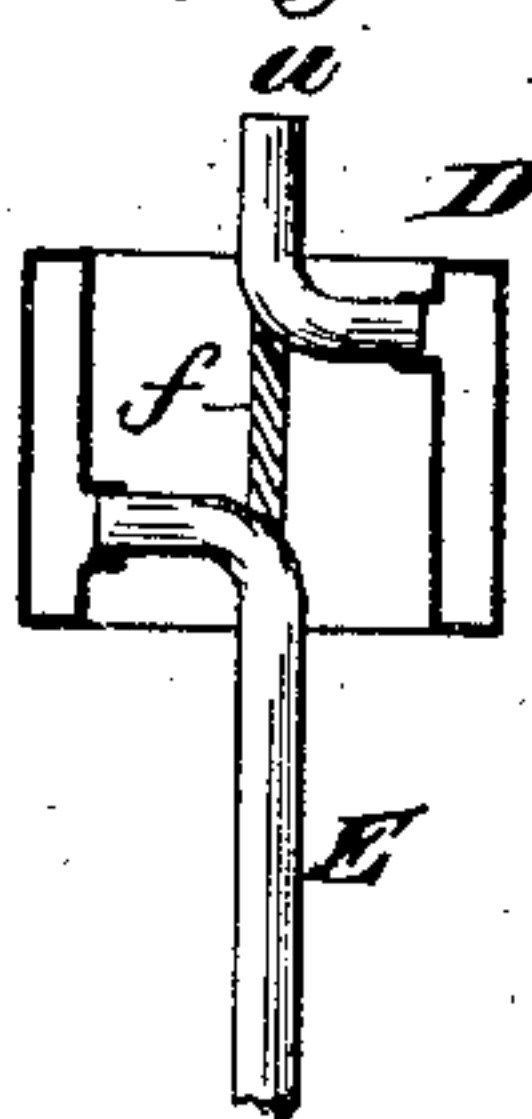


Fig. 4.

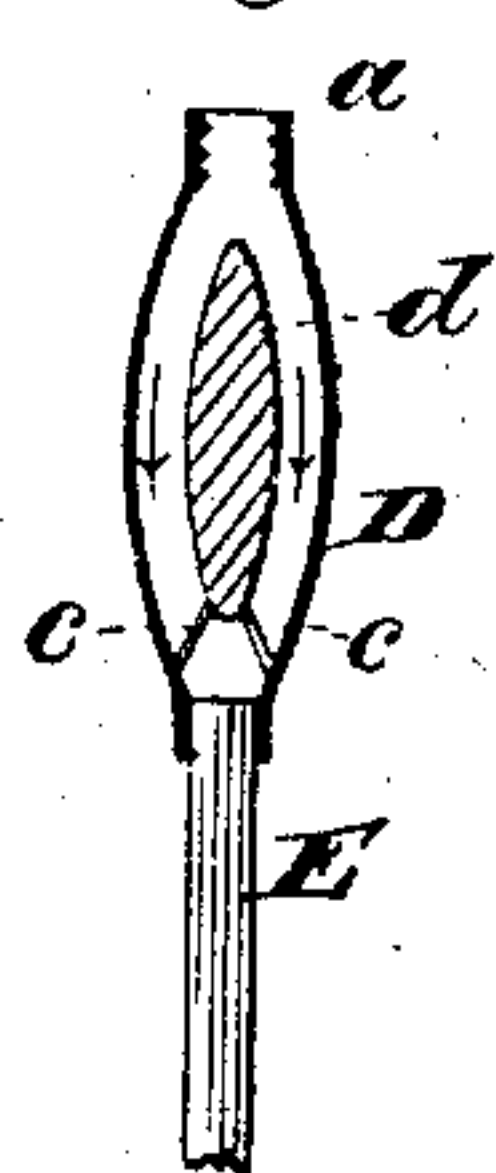


Fig. 5.

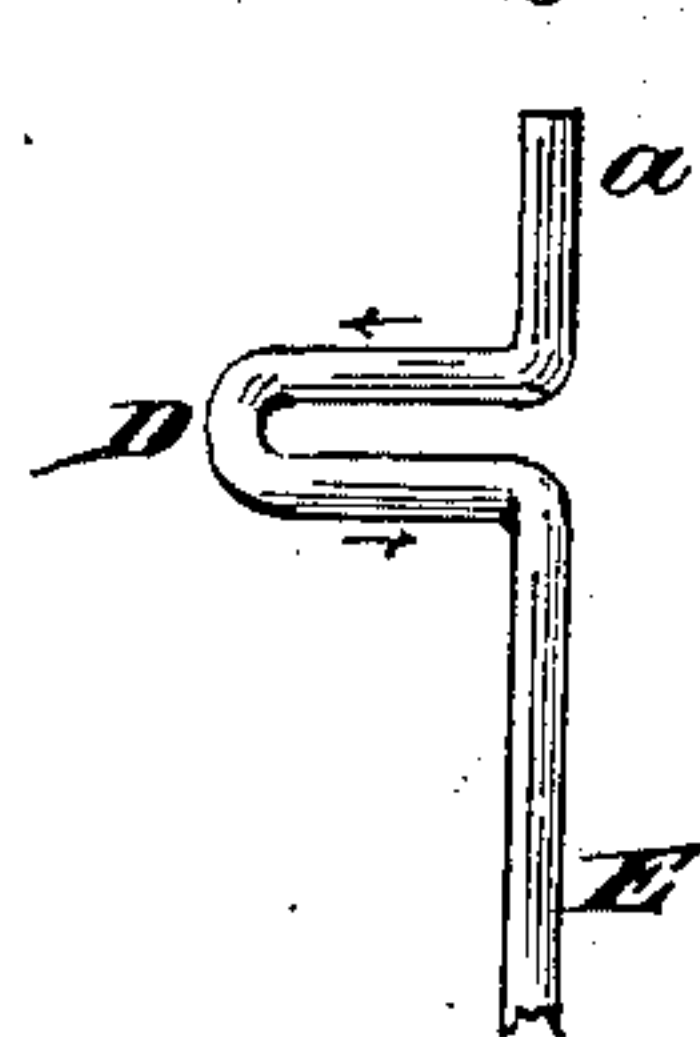


Fig. 6.

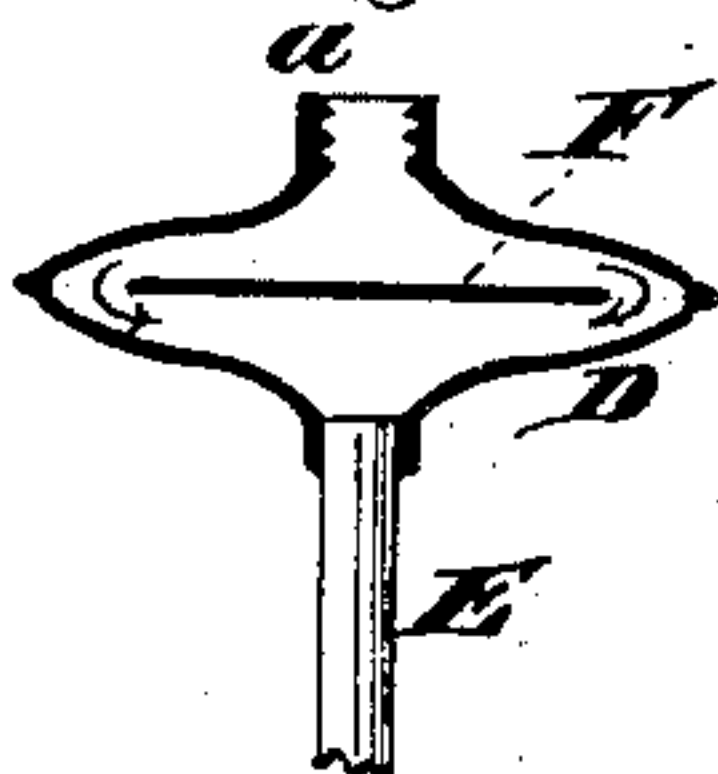


Fig. 7.

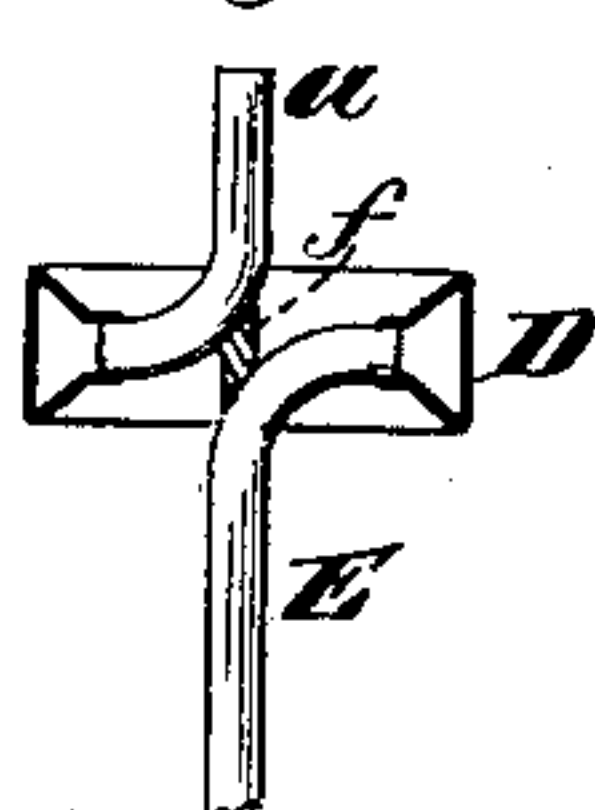


Fig. 8.

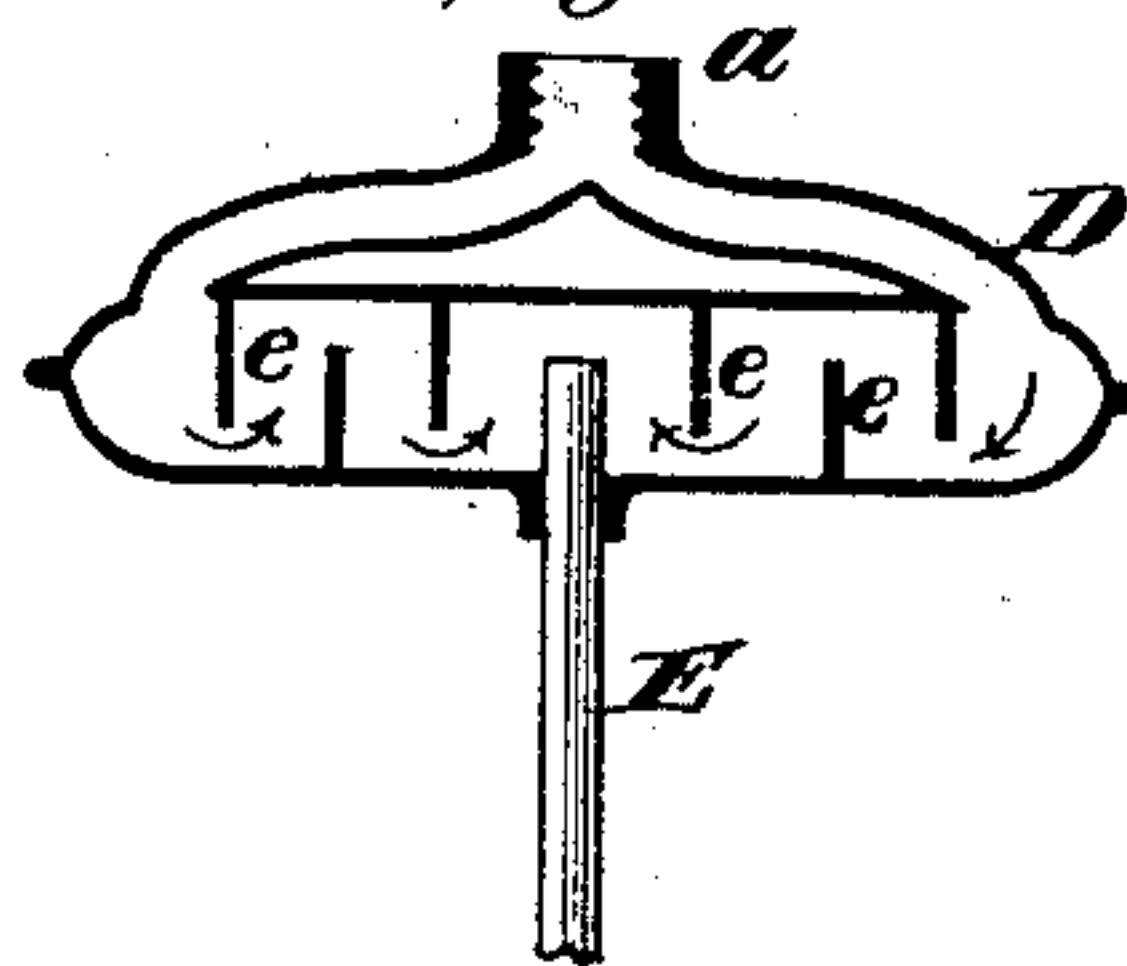


Fig. 9.

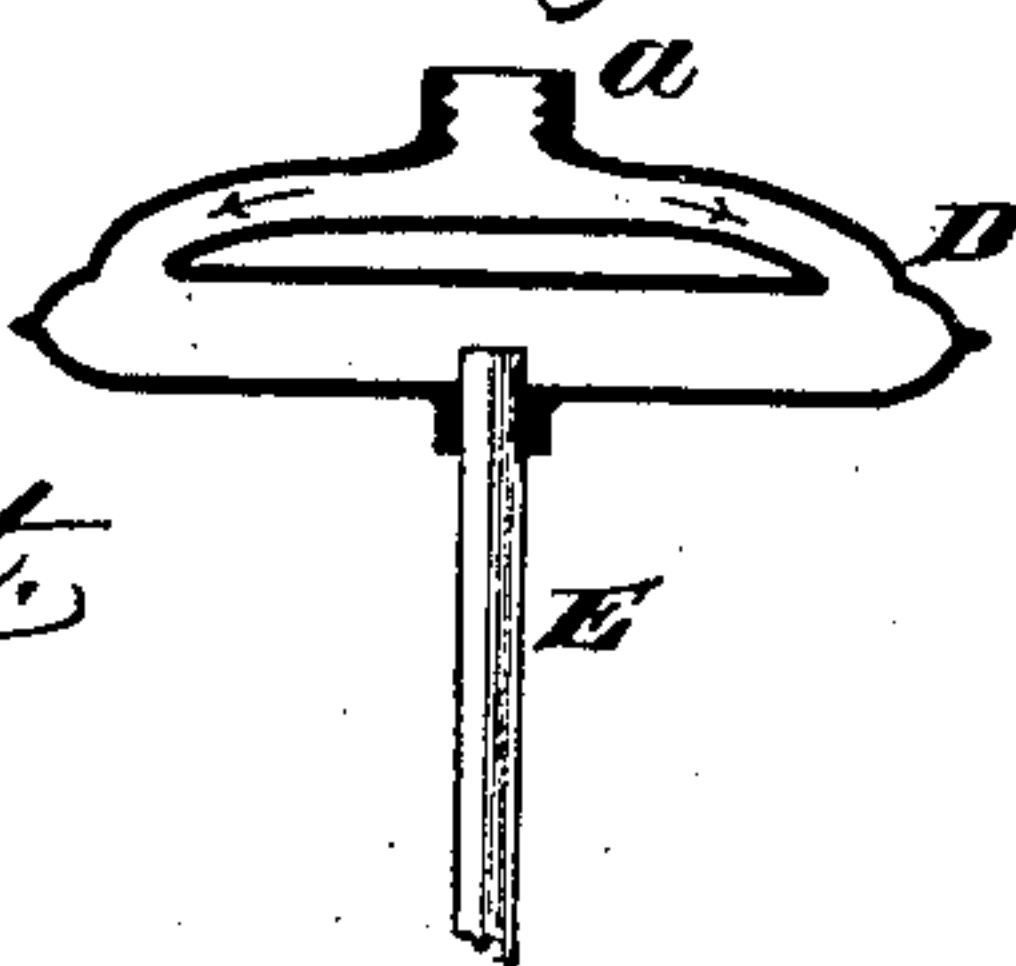


Fig. 10.



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CARBURETING ATTACHMENT FOR GAS-FIXTURES.

SPECIFICATION forming part of Letters Patent No. 333,862, dated January 5, 1886.

Application filed July 30, 1885. Serial No. 173,074. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA KIDD, a subject of the Queen of Great Britain, residing at Newark, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Carbureting Attachments for Gas-Fixtures, of which the following is a specification.

My invention has relation to improved means of enriching illuminating-gas with heavy hydrocarbons volatilized by the heat of the flame at the gas-burner, as hereinafter set forth.

The invention is illustrated in the annexed drawings, in which Figure 1 represents, partly in vertical section, a gas-burner and detachable carburetor with feed-pipe and heater attached; and Figs. 2 to 10 are modifications in the form of the heater, to be hereinafter referred to.

In carrying my invention into effect I prefer to connect the gas-burners A to a casing, B, having a carbureting-chamber, C, detachably secured to its lower end by a screw-threaded connection, or otherwise. This casing B and carburetor C may be made of metal in any desired form. The gas-heater D, various forms of which are shown in Figs. 1 to 10, is attached to or formed on a pipe, E, that is passed down through the casing B and into the carbureting-chamber. This pipe E is secured in the upper part of the casing B, as shown in Fig. 1, and forms part of the permanent gas-fixture in either a bracket or drop light; or, in other words, the fixed pipe E may be part of a chandelier, as shown in Fig. 1, or it may form part of a wall-bracket or side light.

It will be understood that the precise form of the heater D is immaterial. I therefore do not confine myself to any special construction. This heater may consist of two or more tubes brazed together at top and bottom and connected to the pipe E, as shown in Fig. 1, the inlet *a* being in connection with the ordinary house-service pipes.

In Fig. 2 the heater is shown as a hollow globular body with a central solid core, *b*, also having a round form, but smaller in diameter, and supported within the heater by pins *c c*, so as to afford a circuitous passage for gas.

The form of heater shown in Fig. 3 consists of an annular body, one side of which is in connection with the pipe E, while an inlet-tube, *a*, is connected to the opposite side.

Fig. 4 shows the heater in the form of an enlarged pipe with a finger-shaped or cylindrical core, *d*, of metal or other material, supported therein by means of pins *c c* to make the gas take a more circuitous course. In place of the finger-shaped core *d* the enlarged tube or heater D may be filled with wire-gauze or its equivalent, or a plain tube may be used without any interior substance where the heat from the gas-flames is sufficient to rapidly raise the gas to the required temperature.

It is obvious that the globular form of heater shown in Fig. 2 may be replaced by a heater of oblong or rectangular form, and the shape of the core *b* may be changed to correspond. This core may also be replaced by wire-gauze or its equivalent. The cores *b* or *d*, or their wire-gauze equivalents, thus give a circuitous direction to the gas passed through the heater, and, besides, afford a more extended heating-surface. A similar effect is produced by the construction shown in Fig. 6, in which a disk or deflector, F, is arranged in the heater.

Fig. 7 shows a modification of the construction illustrated in Fig. 3, being a ring made of a semi-cylindrical tube, with the gas inlet and outlet connected therewith. This device may also be made of ordinary round tubing.

In Figs. 5 and 10 the heater is shown as formed by simply bending the pipe E into the required shape to afford a more extended heating-surface. According to the form shown in Fig. 10 the pipe may be coiled one or more times, as desired, or it may be bent into a spiral form.

Fig. 8 shows a heating-chamber provided with partitions *e*, arranged to cause the gas to come in contact with a large amount of heating-surface. This chamber may be made ring-shaped, round, oblong, or square. If desired, the partitions *e* may be omitted, as shown in Fig. 9.

It is obvious that the heating devices above described may be varied in a great many other ways with the same result.

When desired, the inlet and outlet tubes,

as shown in Figs. 3 and 7, may be connected by a brace, *f*, to give additional strength to the heater.

The tubular-shaped heater may consist either of ordinary tube or pipe bent to the desired shape, or of metal cast or worked into tubular form, or with tubular channels for the passage of gas in circuitous directions.

The heating chamber or tube, as the case may be, can be made either with or without an interior core or partition, as may be preferred. It is also apparent that the heater *D*, however made, may be placed above or at the side of the gas-flame or in close proximity thereto; or the gas may be made in some instances to take a reverse course through the heater to that indicated by the arrows in the drawings. It will be understood, however, that I prefer to arrange the pipe *E* and attached heater *D* in some such form, as shown in Fig. 1, so that the heater will be exposed to the direct action of heat from the gas-flames.

The heated gas, after passing through the heater, is conducted by the pipe *E* into the carbureting-chamber *C* and in contact with some heavy hydrocarbon material contained therein. This hydrocarbon material is volatilized by contact with the heated gas, which in turn is enriched thereby, and so has its illuminating qualities enhanced in a simple and inexpensive manner.

By referring to Fig. 1 it will be seen that the neck *g* of the detachable carbureting-vessel *C* is externally screw-threaded to engage corresponding screw-threads in the interior of an integral cap or flange, *h*, at the lower end of the casing *B*, the carbureting-vessel being thus readily detached and replaced, as required. Instead of a screw-threaded connection for these parts, it is obvious that some other detachable fastening may be employed.

By detachably connecting the carbureting-vessel and the gas-fixture or fixed burner-support the carbureting-vessel can be made of a simple globular or other suitable form without perforating its walls, with special openings through which to introduce a renewed supply of carbureting material.

It will be observed that by my invention as shown in Fig. 1 the carbureting-vessel has only one opening. Through this opening the carbureting-vessel communicates with the permanent gas-fixtures, and when the carburetor is detached this opening serves as a passage for renewing the carbureting material.

Heretofore a carbureting-vessel has been immovably connected with a gas-fixture. This, however, necessitated providing the carburetor with special openings for introducing the hydrocarbon material, such openings being usually closed by plugs or screw-caps, that are liable to become detached and lost. In such construction, also, it is frequently diffi-

cult to replenish the fixed carburetor, especially when attached to fixtures that are suspended at a considerable height. These difficulties I avoid by detachably connecting the carbureting-vessel *C* to the casing *B*, that communicates with and supports the gas-burner. The carbureting vessel or chamber is thus capable of being detached and carried out of the apartment when it becomes necessary to replenish its contents, and no special openings are required for introducing the carbureting material, as it can be readily and conveniently placed in the vessel through the neck *g*, that connects with the burner-support. This is obviously a great convenience, especially when the carbureting-vessel is attached to fixtures suspended at a considerable elevation.

I am aware that a carbureting-vessel has been provided with a detachable gas-burner tip at the top, and with inclosed gas-conducting tubes, the whole device being detachably connected to a gas pipe or fixture by means of a socketed opening or screw-threaded connection at the bottom of the carbureting-vessel. Such construction, however, I do not claim.

I am also aware that it is common to detachably connect a burner with the oil-reservoir of a lamp.

My invention, however, is distinguished from all others of which I am aware in that it consists of a carbureting-vessel having an opening only at the top and adapted to be detachably suspended at that point from a permanent gas-fixture that embodies a gas-inlet and gas-burner with which the attached carbureting-vessel communicates. The single opening or neck at the top of my improved carbureting-vessel serves, therefore, as a means of obtaining access to the interior of the vessel when detached; also, as a means of suspending the vessel from a permanent gas-fixture, and as a passage-way for gas when the parts are properly connected.

What I claim as my invention is—

1. The combination, with a gas-fixture, of a carbureting-vessel having a single opening and detachably suspended from the fixture at said opening, substantially as described.
2. The combination of the fixed pipe *E*, the heater *D*, and tubular casing *B*, attached to said pipe, the burners *A*, supported by said tubular casing, and the carbureting-vessel *C*, having a single opening or neck, *g*, and detachably suspended from the casing at said opening, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSHUA KIDD.

Witnesses:

J. WHITEHEAD,
WILLIAM L. FORD.