

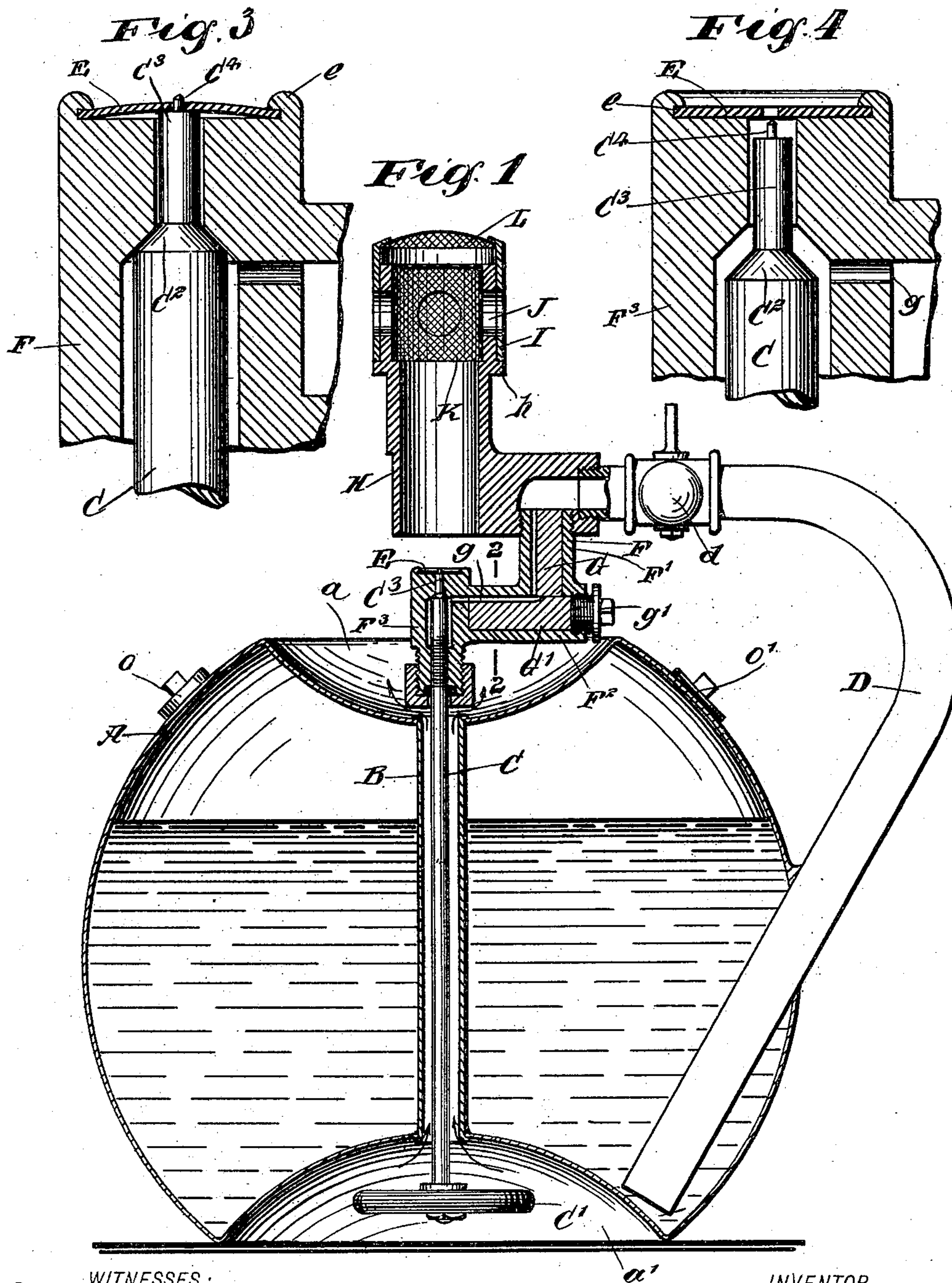
No. 640,016.

Patented Dec. 26, 1899.

A. S. NEWBY.
GASOLENE LAMP BURNER.

(Application filed June 28, 1899.)

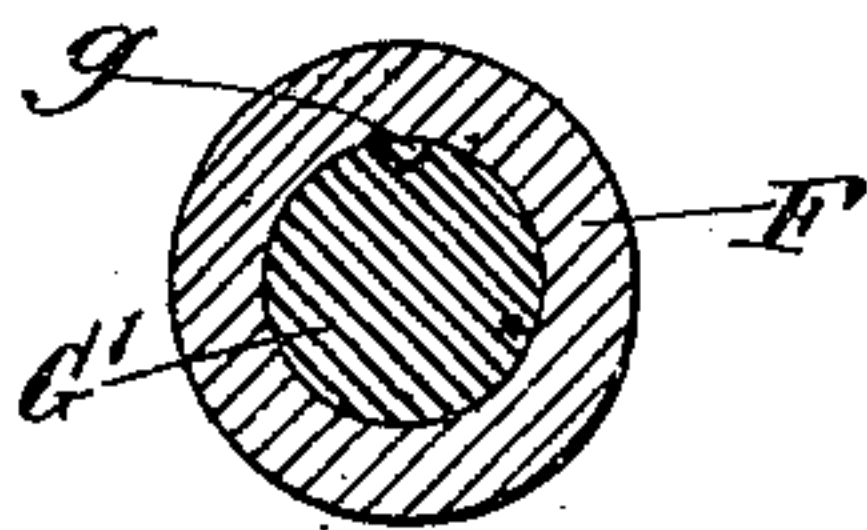
(No Model.)



WITNESSES:

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Fig. 2



INVENTOR

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UNITED STATES PATENT OFFICE.

ALBERT S. NEWBY, OF CHANUTE, KANSAS, ASSIGNOR TO HIMSELF, AND
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GASOLENE-LAMP BURNER.

SPECIFICATION forming part of Letters Patent No. 640,016, dated December 26, 1899.

Application filed June 28, 1899. Serial No. 722,173. (No model.)

To all whom it may concern:

Be it known that I, ALBERT S. NEWBY, of Chanute, in the county of Neosho and State of Kansas, have invented a new and Improved Gasolene-Lamp Burner, of which the following is a full, clear, and exact description.

My invention relates to an improvement in burners for use on gasolene-lamps using an incandescent mantle, and comprises the novel features hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional elevation through my device and the lamp. Fig. 2 is a cross-section upon the line 2 2 of Fig. 1, and Figs. 3 and 4 are sectional elevations of the upper end of the tube containing the valve.

The bowl A of the lamp is constructed in the main in the form of a sphere, having two cavities *a* and *a'* located in the top and bottom thereof and connected by a tube B, which unites the central portions of these cavities.

The generator and the valve controlling the exit of gas therefrom are located in the upper cavity, and the valve-stem C passes through the tube B to the lower cavity *a'*, where it is provided with a handle or wheel C', said handle lying wholly within said cavity.

The oil is supplied to the generator by means of a pipe D, which extends through one side of the bowl, its open end terminating close to the bottom of the bowl. The pipe after passing through the side of the bowl is curved, so as to form a convenient handle for the lamp, its upper end then connecting with an opening in the bottom portion of the body or base H of the burner, and said pipe is provided with a valve *d*, by which the flow of oil may be cut off. With the said opening in the body or base H of the burner is also connected one end of a peculiarly-shaped tubular piece F, which constitutes the generator and has three parts F', F², and F³, which parts may be made in a single piece or of separate pieces, as desired. The parts F' and F² are provided with central bores which receive the packing-bars G and G', said bars being of such cross-section as to fill the opening, except for a slight passage which is formed

by a longitudinal groove *g*, cut in one side of each of said bars, the two bars being so placed that the grooves in each will connect. The passage is continued through the side of the upper end of the part F³, thus completing the connection between the oil-supply pipe and the valve. The part F² has its passage closed at the outer end by means of a plug *g'*, which is screwed therein and which may be readily removed if it is desired to clean the parts.

The valve, which is placed in the upper end of the part F³, is shown in detail in Figs. 3 and 4, the two figures representing, respectively, the closed and opened positions of the valve. The opening within the upper end of the part F³ is contracted close to said end, forming a beveled or coned valve-seat, and the contracted opening then continues to the open end of the part F³. At the upper end of said part F³ is a thin diaphragm E, of flexible metal, which is secured at its edges only. This diaphragm has a small central aperture through which the gas escapes to the burner. The edges of the diaphragm are herein shown as being secured to the tubular part F³ by having a flange *e* upon said part F³ rolled or beaded over the edge of the diaphragm.

The valve-stem C has its upper end reduced in diameter, forming a coned shoulder C², adapted to engage the coned valve-seat in the part F³. The reduced extension C³ of the valve-stem is smaller than the corresponding bore of the part F³, so as to permit the free passage of the gas. The end of this extension is squared—that is, faced at right angles to its axis—excepting for a small central point C⁴, which is adapted to enter the aperture in the diaphragm. The parts are so placed with relation to each other that the squared end of the extension C³ will engage the inner surface of the diaphragm just prior to the firm seating of the shoulder C² upon its valve-seat, thus applying sufficient pressure to the diaphragm to form a tight joint and to slightly force the diaphragm outward, as indicated in Fig. 3.

The point or pin C⁴ is not intended to act as a closure for the aperture in the diaphragm, the closure being effected between the end of the extension C³ and the side surface of the diaphragm and between the shoulder C² and

its seat. The object of the pin C⁴ is to insure that the aperture in the diaphragm will not become clogged. It is evident that with this pin entering the aperture in the diaphragm at each time the valve is closed it will force out any sediment or foreign matter which may become lodged in the aperture, thus leaving the latter in condition for the ready escape of gas when next the valve is opened. It is preferred that the diaphragm E should be made of very thin and springy metal.

The piece H, which forms the base or body of the burner, is provided with a flange *h* near its upper end and with openings J in its side between said flange and its upper end. Within the upper end of the tube formed by the burner-body H is placed a cylinder K, of wire-gauze, which is open at its lower end and furnishes a screen both for the side openings J and the upper end opening of the tube. Surrounding the upper portion of the tube and resting upon the flange *h* is a ring or cylinder I, which has side openings adapted to register with the side openings J in the tube H. The upper end of said ring extends a slight distance above the upper end of the tube H and has a wire screen L secured thereto. By turning the ring I upon the burner the passage of mixed air and gas through the openings in the burner and the ring may be regulated in amount.

The generator being close to the burner and connected thereto by comparatively large bodies of metal, heat will be readily conducted downward from the burner in sufficient quantities to keep these parts at a temperature high enough to cause rapid volatilization of the oil.

A screw-cap O is placed in the upper part of the bowl, on removing which the bowl may be filled. A valved tube O' is also provided, to which a pump may be attached for supplying the necessary air-pressure.

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

1. A valve for gasolene-burners, comprising a thin diaphragm having a hole therethrough, and a rod movable toward and from said diaphragm and having a point adapted to enter said hole, and a shoulder at said end adapted to engage the surface of the diaphragm about the hole, substantially as described.

2. A valve for gasolene-burners comprising a rod and a thin elastic-metal diaphragm having a hole therein, said rod being movable to engage its end with the diaphragm about the hole therein and the diaphragm being bodily flexed under the pressure of the valve, and a limiting-stop for said rod.

3. A valve for gasolene-burners, comprising a body having a passage containing the valve-stem and carrying the gas-supply, said body

having a coned seat for the valve-stem inward from its end, and a passage extending from the seat to its end, a thin diaphragm closing its outer end and having a small hole therein, and a valve-stem having a coned shoulder adapted to engage the coned seat, a squared end to simultaneously engage the diaphragm about its hole, and a point or pin entering said hole, substantially as described.

4. A gasolene-lamp, comprising a globular bowl having central concaved recesses at top and bottom, a pipe extending vertically through the bowl and connecting the bottoms of said recesses, an oil-supply pipe extending from within the bowl outward at one side, its upper end curving over the bowl to form a handle and support for the generator, a generator supported by said pipe centrally above the bowl, and having a controlling-valve upon its opposite end, the stem of said valve being in line with and extending through the vertical pipe and having a handle beneath the bowl, said stem being smaller than the pipe and disconnected therefrom, and a burner supported above said valve, substantially as described.

5. An oil-gas lamp, comprising a globular bowl having a central concavity in its bottom, and a tube passing vertically through the bowl and opening freely at its ends, a generator above the lamp-bowl and having a controlling-valve, the stem of said valve being in line with said tube and passing through but not closing it, and a handle or wheel secured to the lower end of said stem and lying within the concavity beneath the bowl, substantially as described.

6. A gasolene-burner, comprising a cylinder having openings in its upper end and sides, a wire-gauze cylinder fitted within said cylinder and covering said side and end openings, and a regulating-ring surrounding and turning upon the burner-cylinder and having side openings adapted to register with the holes therein, whereby the effective area of said holes may be regulated, the upper end of the said ring extending above the burner-cylinder and having a wire-gauze cover thereon, substantially as described.

7. A valve for gasolene-burners comprising a body having a passage containing the valve-stem and carrying the gas-supply, said passage containing a seat inward from its ends, a thin flexible diaphragm closing the outer end of said passage and having a hole in line therewith, a valve-stem within said passage having a seat or shoulder adapted to engage the seat within the passage, and its end adapted to engage the diaphragm to close the opening therein.

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