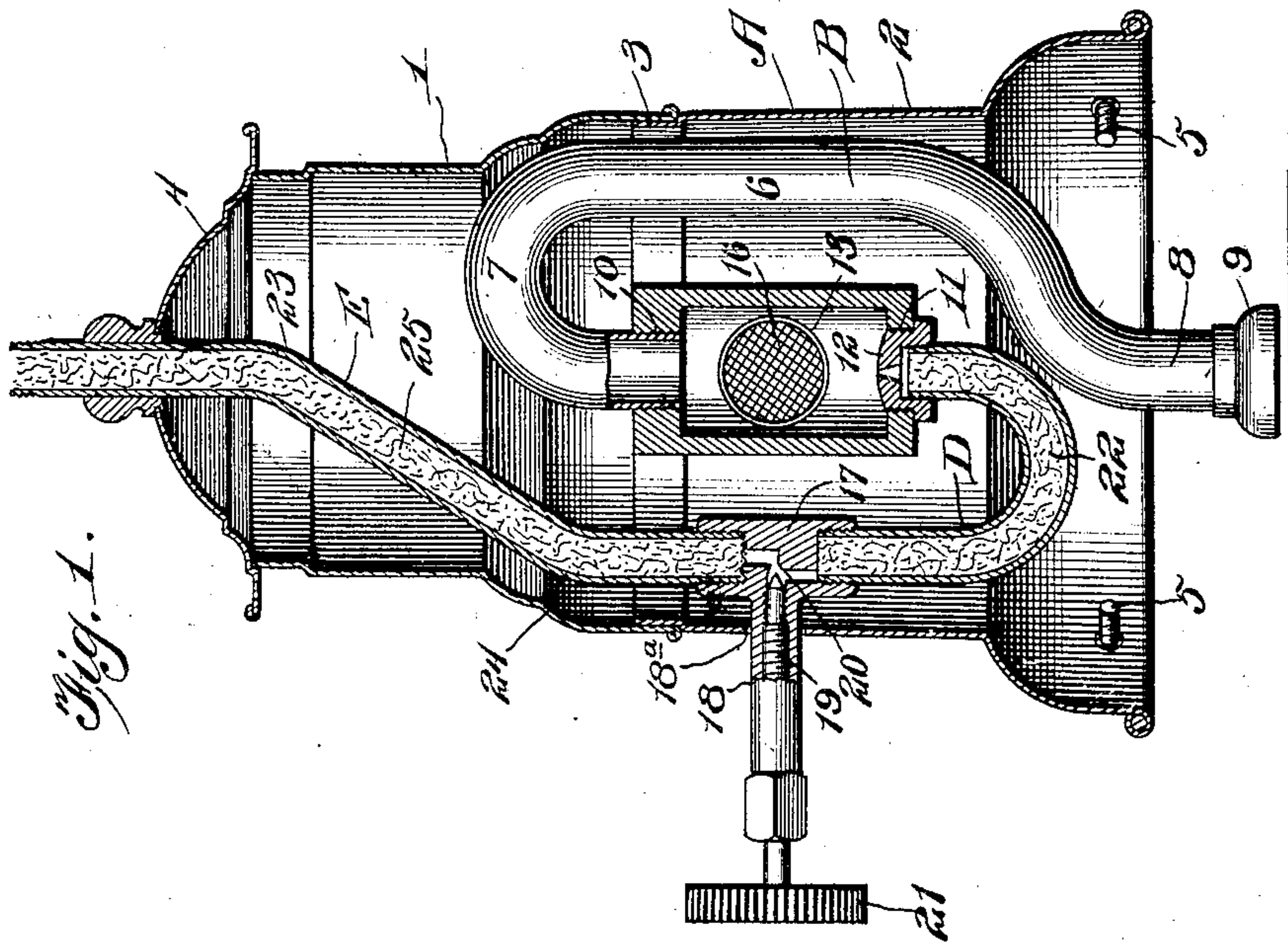
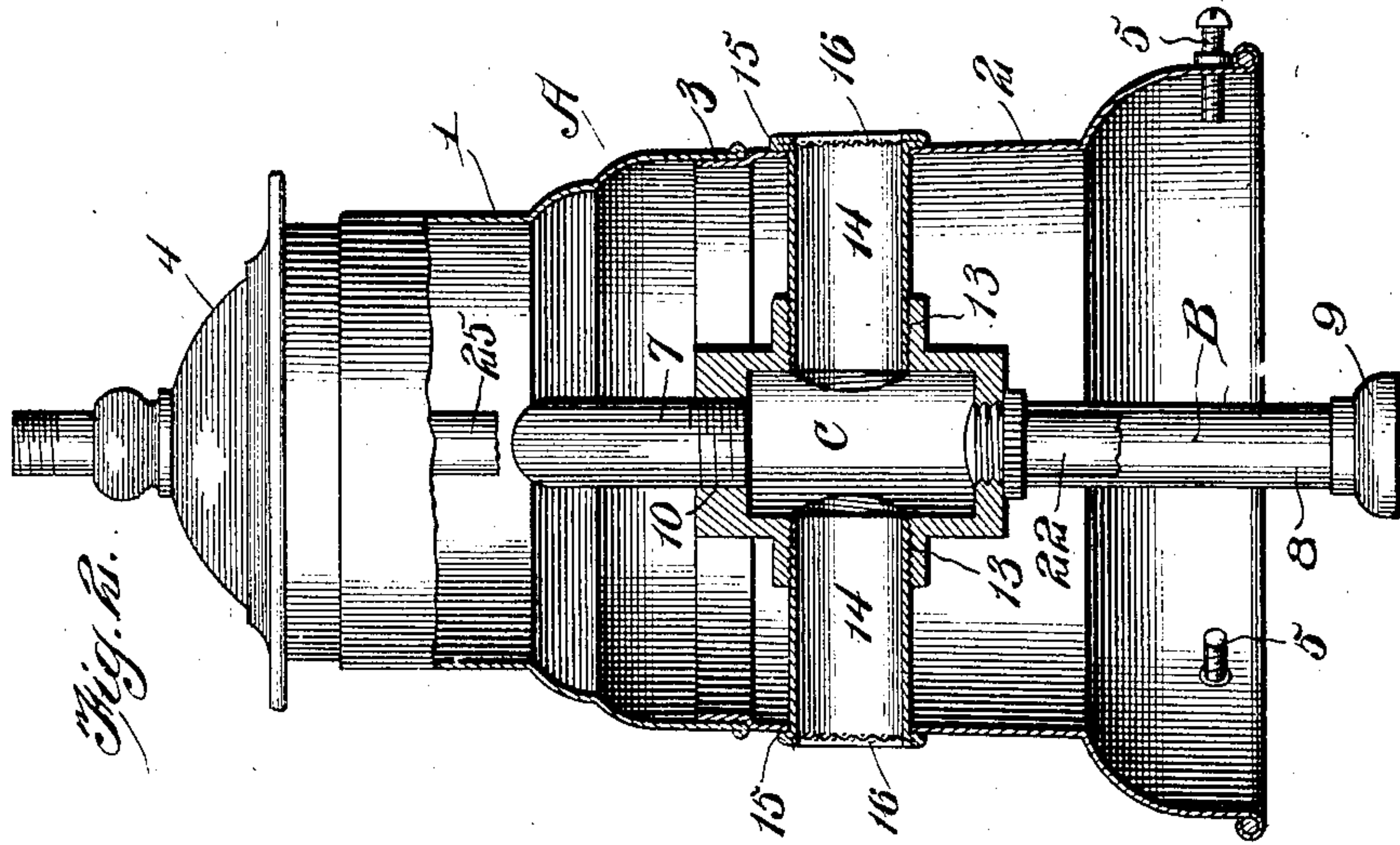


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HYDROCARBON INVERTED MANTLE LAMP.  
APPLICATION FILED JULY 21, 1908.

912,185.

Patented Feb. 9, 1909.



Witnesses

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# UNITED STATES PATENT OFFICE.

OSCAR J. SEEHAUSEN, OF CHICAGO, ILLINOIS.

## HYDROCARBON INVERTED-MANTLE LAMP.

No. 912,185.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed July 21, 1908. Serial No. 444,589.

*To all whom it may concern:*

Be it known that I, OSCAR J. SEEHAUSEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Hydrocarbon Inverted-Mantle Lamps, of which the following is a specification.

This invention relates to a hydro carbon lamp of that type in which the mantle or mantles are inverted and which generates its own vapor by the heat of the flame.

The invention has for one of its objects to improve and simplify the construction and operation of lamps of this character so as to overcome objectionable features of lamps as heretofore constructed, and so as to be thoroughly reliable and efficient in use, and comparatively simple and inexpensive to manufacture.

Another object of the invention is the provision of a lamp in which the vaporizer is so designed and arranged as to enable quick starting and efficient operation of the burner, and whereby the condensed vapor will drain away from the tip or nozzle at the end of the vaporizer when the lamp is shut down and collect at a suitable point where vaporization can be quickly and easily effected during the initial heating of the vaporizer for starting of the lamp.

Another object of the invention is the novel and compact arrangement, within the canopy or casing, of the vaporizer, mixing tube into which the vaporizer discharges, and gas-conducting material that supports the mantle of the burner of the lamp, the parts being so designed as to permit the easy and quick assembling thereof and at the same time producing a lamp of neat and attractive appearance.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing which illustrates one embodiment of the invention, Figure 1 is a central vertical section of the lamp. Fig. 2 is a similar section taken at right angles to the section of Fig. 1.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, A designates the canopy or casing of the burner which is preferably made in an upper and lower section 1 and 2 connected together by a telescoping joint at 3, and on the upper section is a hood or cover 4, which is of sheet metal spun or pressed into any desired shape, provided with screws 5 at its bottom for supporting the globe that incloses the inverted mantle or mantles.

Arranged within the casing A is a gas-conducting tube B in the general form of a question mark having a vertical portion 6 which is formed into a semicircular bend 7 at its upper end for connection with the mixing chamber C, while the lower end is bent into a compound curve to terminate at 8 in a position coincident with the axis of the canopy in a single mantle burner. On the lower end of the gas-conducting tube is a gauze-carrying cap 9 and around this cap is suspended the mantle of the lamp. The mixing chamber C is a metal casting or the like of appropriate form which has an internally-threaded opening 10 at its top into which is threaded the receiving end of the tube B, and the bottom of the chamber has a threaded opening 11 into which is screwed a nozzle or jet-discharging device 12. The casing has side openings 13 that are internally threaded for receiving the air inlet tubes 14 which have their outlet ends disposed in openings 15 in the lower section of the canopy or casing A, the inner ends of the tube being screwed into the side openings of the mixing chamber. The outer ends of the air inlet tubes 14 are covered with gauze 16 secured in place by crimping the edges of the tube as shown in Fig. 2 around the peripheries of the gauze pieces, the gauze serving to prevent cross drafts through the lamp which might interfere with the effective operation. The air inlet tubes constitute means for supporting the casing of the liquid chamber.

The vaporizer D, which is arranged within the canopy, consists of a suitable length of tubing bent into semi-circular substantially U-shaped form with one end screwed into the nozzle 12 and is connected thereby with the bottom of the mixing tube, while the upper end of the other arm is connected with a needle valve casing 17. This casing 17 has a hollow stem that passes out of the canopy through an opening 18 and in which is threaded a needle valve 19 cooperating with the seat 20 to control or cut off the supply of



liquid fuel, the valve being manipulated by a hand wheel 21 disposed outside the canopy A. The vaporizer is located in close proximity to the mantle and is in the direct path of the heat rising from the latter. Within the vaporizer is an asbestos or other equivalent filling 22, and by reason of the peculiar shape of the vaporizer, the condensed vapor flows back from the tip or nozzle 12 to the bottom of the bend so that in starting the lamp, the vaporizer adjacent the tip will quickly heat and insure rapid generation of vapor and at the same time prevent the draining of liquid fuel into the mixing chamber and gas-conducting tube. Leading into the upper end of the canopy is a fuel-conducting pipe E which extends centrally through the cover 4 and is bent laterally at 23 toward one side of the casing, and then vertically at 24 so as to screw into the upper end of the needle-valve casing 17, this pipe being filled with asbestos 25 or the like for preventing pulsation of the lamp. The upper end of the pipe E is connected with a suitable source of liquid fuel supply under pressure and the liquid fuel feeds through the pipe, valve-casing 17, and into the vaporizer D where it is converted into vapor, and finally issues through the nozzle or tip 12 into the mixing tube. The jet of vapor induces a supply of air into the chamber through the tube 14, and the mixture thus resulting is conveyed to the mantle through the gas-conducting pipe A.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what I claim is:—

1. A hydro-carbon lamp of the inverted mantle type comprising a gas-conducting tube disposed vertically and having its upper end bent back upon itself, a mixing tube having top and bottom and side openings, said top opening receiving the upper end of the gas-conducting tube, a substantially U-shaped vaporizer having one arm connected with the bottom of the mixing chamber and

the other arm disposed along the side of the latter, a nozzle fitted in the opening in the bottom of the mixing chamber and connected with the vaporizer, a valve-casing connected with the vaporizer, a downwardly-discharging liquid fuel conducting tube having its lower end connected with the valve-casing, and a valve in the said casing controlling the flow of fuel into the vaporizer from the last-mentioned tube.

2. A lamp comprising a casing open at its bottom and provided with apertures in its side, a mixing chamber arranged within the casing and having openings at its top and bottom and sides, air-conducting tubes passing through the apertures of the casing and communicating with the side openings of the chamber, said tube serving to support the casing on the chamber, a gas-conducting tube connected with the top opening of the chamber and extending downwardly between the chamber and casing and terminating under the chamber at the open bottom of the casing, a gauze-carrying cap on the lower end of the tube, a nozzle fitted into the bottom opening of the chamber, a vaporizer secured to the nozzle and consisting of a tube doubled back on itself, and a valve-controlled liquid fuel conduit extending downwardly through the casing and connected with the said vaporizer.

3. A hydro-carbon lamp of the inverted mantle type comprising a casing composed of two sections telescopically connected, a mixing chamber within the casing, a gas-conducting pipe connected with the top of the chamber and curved downwardly to extend between the chamber and casing and having its lower end disposed below the chamber and coincident with the axis of the casing for supporting a mantle, a vaporizer consisting of a bent tube having one end connected with the chamber and the other end extending upwardly in the casing, a needle valve connected with the vaporizer and provided with a stem projecting out of the casing, a liquid fuel conducting pipe extending downwardly through the top of the casing and connected with the needle valve, air-conducting pipes extending through the wall of the casing and threaded in the mixing chamber to supply air thereto, and gauze protectors in the said air-conducting pipes.

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

OSCAR J. SEEHAUSEN,

Witnesses:

JEROME A. ADAMS,  
A. G. RADOMSKI.