

J. T. LISTER.  
 INVERTED INCANDESCENT GAS LAMP.  
 APPLICATION FILED JUNE 28, 1910.

992,219.

Patented May 16, 1911.

Fig. 1.

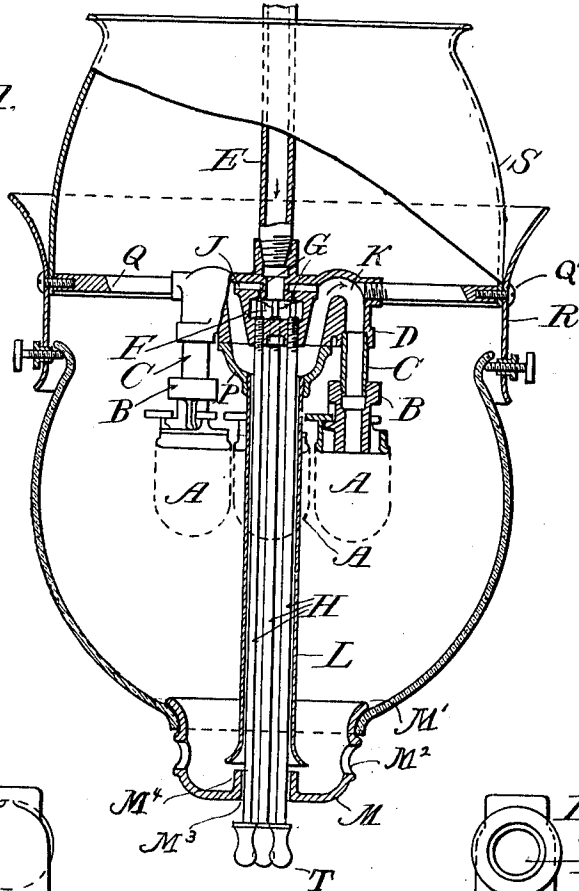


Fig. 2.

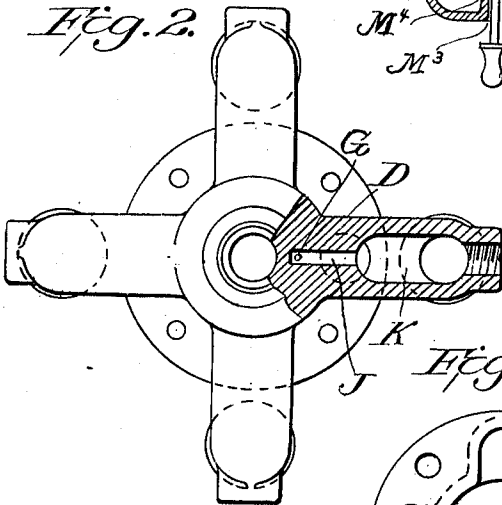


Fig. 3.

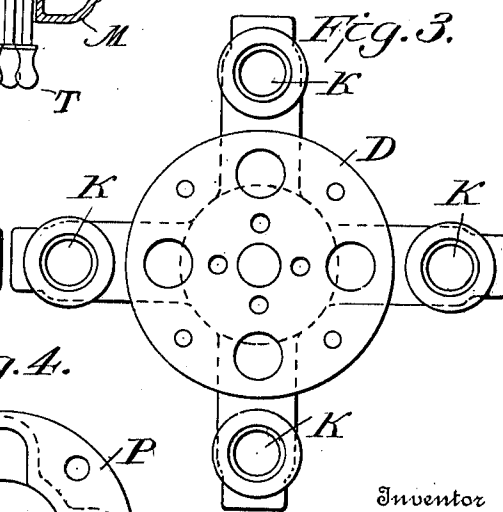
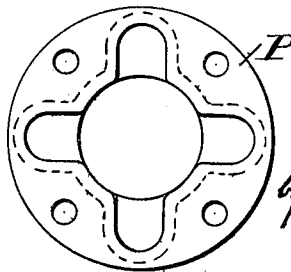


Fig. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN T. LISTER, OF CLEVELAND, OHIO.

INVERTED INCANDESCENT GAS-LAMP.

992,219.

Specification of Letters Patent.

Patented May 16, 1911.

Application filed June 28, 1910. Serial No. 569,305.

*To all whom it may concern:*

Be it known that I, JOHN T. LISTER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Inverted Incandescent Gas-Lamps, of which the following is a specification.

This invention relates to inverted incandescent gas lamps, and has for one of its objects to provide improved means for supporting the mantles so that they can be readily removed and replaced, the invention being particularly applicable to lamps of the multiple type.

The further object of the invention is to provide improved means for feeding air and gas to the mantles, including especially a central depending air tube through which air flows, to be mixed with the gas before the mixture is conducted to the mantles.

A further object of the invention is to provide improved means for regulating or controlling the gas flow, the supply to each mantle being independently regulated by means of a valve rod which hangs through the air tube, to a convenient position for its manipulation, from a position under the globe.

A further object of the invention is to provide an improved globe for the lamp, which will serve to prevent ashes and heated mantle rings from falling through the bottom of the globe, which might be the cause of fire, this object being effected by means of a removable cup which fits in the lower globe opening and which is provided with air holes in the side affording an indirect passage for air to the outside of the mantles, as distinguished from the air which is mixed with the gas and supplied to the inside of the mantles.

A further object of the invention is to provide improved means for supporting the globe and its ring, and the chimney.

An embodiment of the invention is shown in the accompanying drawings in which—

Figure 1 is a central vertical sectional view of the lamp. Fig. 2 is a top view of the mixer casting. Fig. 3 is a bottom view of the same. Fig. 4 is a detail in top view of a casting which supports the air tube.

Referring specifically to the drawings, A indicates inverted mantles hanging on tubular supports B which are screwed on short

pipes C, which are screwed into the arms or branches of the mixer casting D which in turn is screwed to the lower end of the gas supply pipe E, on which the whole lamp is hung. The casting D has a hollow central part forming a chamber F which is connected by ports G to passages J leading to the mixing tubes or passages K which communicate with the pipes C to supply the mixture to the respective mantles. The ports G are controlled by long needle valves H, of which there is one for each port, so as to control the supply to the individual mantles. These valve rods H hang in an air tube L which depends from a casting P which is fastened to the underside of the casting D, at the center thereof, and said casting P has passages P' which lead to the mixing passages K and supply air thereto. The lower ends of the valve stems H extend below the lower end of the air tube, and are provided with hinged handles T which may be turned to form cranks to screw the valve stems in or out, the upper ends of said stems being threaded where they pass through the bottom of the casting D, under the chamber F.

Rods Q are tapped into the arms of the casting D and are attached at their outer ends by screws to the globe ring R which supports the globe N by means of thumb screws O, and also carries the chimney S which is conveniently attached to the ring by the screws used to connect the rings to the arms, said screws being indicated at Q'.

At the opening in the bottom thereof, the globe is provided with a cup M which fits in the opening and is supported therein by its flange M' which rests on the edge of the globe around the opening and supports the cup. This cup has air holes M<sup>2</sup> in the sides thereof and also has an opening M<sup>3</sup> in the bottom, with a raised rim M<sup>4</sup> around the same, said opening being located under the mouth of the air tube L; and the valve stems H depend through said opening.

In the operation of the lamp, gas is supplied through the pipe E to the chamber F, from which it flows through passages J and K to the mantles, the flow being individually controlled by the respective valves H. By reason of the heat and the flow of gas, an upward flow of air through the air tube L is induced, which air flows through the passages in the casting P and into the mixing

passages K where it mixes with the gas supplied to the mantles. The valve rods being inclosed in the air tube, and extending down through the opening at the bottom of the globe, are kept cool enough to be handled when the lamp is burning, so that the gas can be regulated at any time, when the lamp is burning, and the number of mantles used may be varied as desired. Air also flows through the openings in the cup M and passes up within the globe, as necessary to support combustion at the mantles. Any ashes or heated mantle rings which may drop in the lamp will be caught and held by the cup M and will not fall to a table or floor below the lamp. The side holes in the cup will provide sufficient air supply and by reason of the indirect passage will afford protection to the mantles from unusual draft. This is desirable because the mantles are fragile and apt to be broken by sudden blasts.

The regulation of the gas supply is particularly efficient and convenient, and the individual control prevents the escape of gas in the event of the destruction or absence of any one or more of the mantles. The mantles can be easily renewed or put in place by removing the globe.

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

1. The combination of a mixer having a gas port therein, an air supply tube leading upwardly to said mixer, a valve provided with an elongated stem extending downwardly through said tube and controlling said port, and a burner connected to the mixer.

2. The combination of a gas supply pipe, a mixer connected to said pipe and having branches provided with gas passages, burners connected to said branches, an air supply tube depending from the mixer, for supplying air thereto, and valves controlling said passages and having stems extend-

ing through said tube for operation below the same.

3. The combination of a mixer having a gas inlet from above and an air inlet from below and provided with gas and air passages and laterally extending branches, burners connected to said branches, and valves controlling the gas passages and having stems extending downwardly through said air inlet.

4. The combination of a globe having an opening in the bottom thereof, a mixer in the globe, provided with a gas inlet, and passage therein, a burner connected to the mixer, and within the globe, an air supply tube depending from the mixer toward said opening, and a valve controlling said passage and having an operating device extending through the tube and through said opening in the globe.

5. The combination of a mixer having tubular projecting branches, and a chamber therein provided with separate ports leading to said branches, inverted burners supported by said branches, an air supply tube attached to the mixer and depending therefrom and communicating with said branches, and separate valves at said ports, each valve having an operating device extending downwardly through the air tube.

6. The combination of the mixer D having lateral branches and a gas inlet and separate ports leading from said inlet to the branches, the air supply tube L hanging from said mixer and communicating with said branches, burners supported by the branches and arranged around the tube, and the valves H controlling said ports and provided with elongated rods extending downwardly through said tube.

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

JOHN T. LISTER.

Witnesses:

STEDMAN J. ROCKWELL,  
CLARA N. WHITFIELD.