

F. J. & H. R. HUMPHREY.

GAS LAMP.

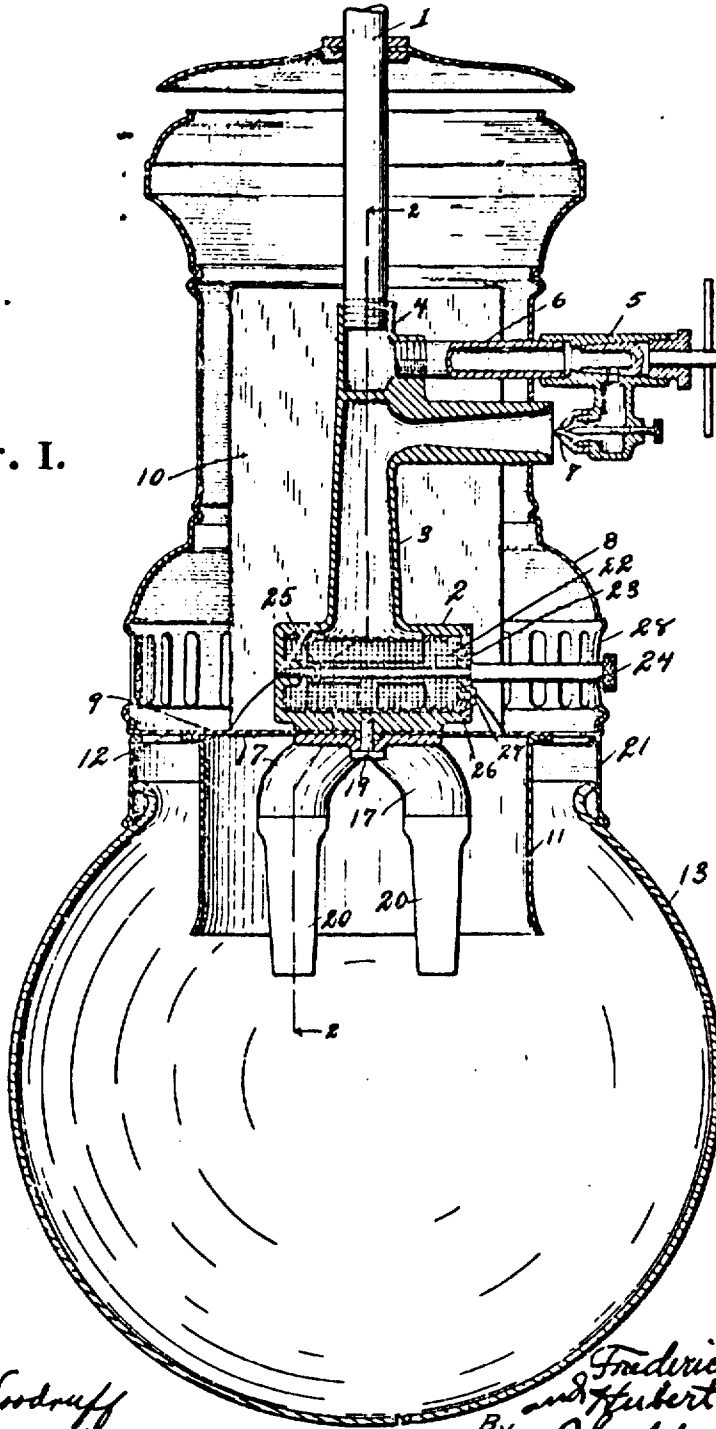
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1,015,563.

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2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS-SHEET 2.

Fig. II.

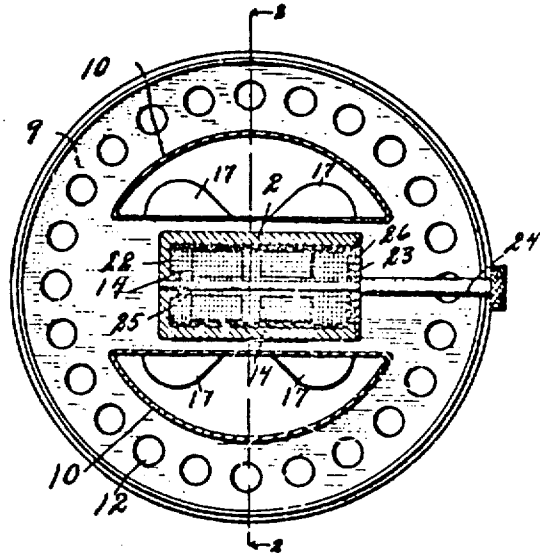
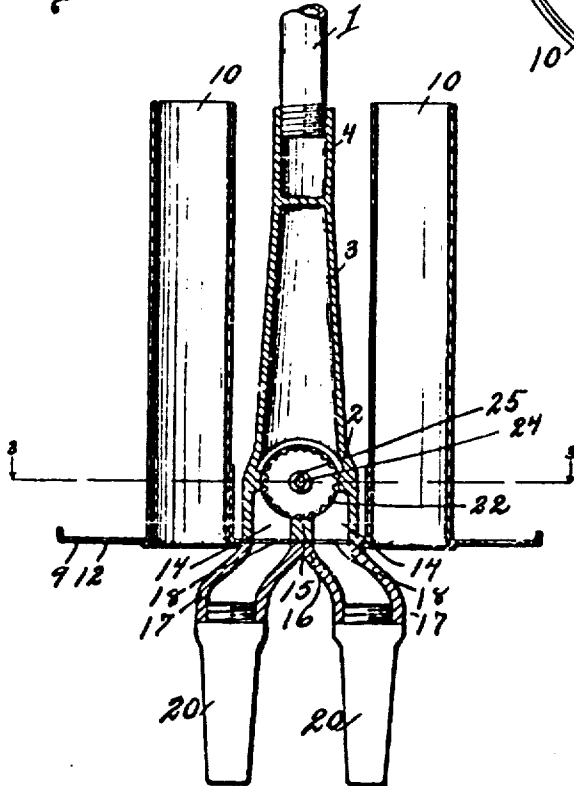


Fig. III.

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UNITED STATES PATENT OFFICE.

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GAS-LAMP.

1,015,563.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, FREDERICK J. HUMPHREY and HUBERT R. HUMPHREY, citizens of the United States, residing at Kalamazoo, Michigan, have invented certain new and useful Improvements in Gas-Lamps, of which the following is a specification.

This invention relates to improvements in gas lamps.

The main objects of this invention are: First, to provide an improved gas lamp of the inverted burner type; second, to provide in a gas lamp of the inverted type an improved burner; third, to provide an improved gas lamp of the inverted burner type, in which the gas is delivered so as not to be unduly heated before reaching the burners and in which the greater portion of the burner is effectively guarded from excessive heating.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

We accomplish the objects of our invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of our invention is clearly illustrated in the accompanying drawing, forming a part of this invention, in which:

Figure I is a vertical central section of a structure embodying our improvements, the gas supply pipe and certain other parts being shown in full lines. Fig. II is a detail vertical section taken on a line corresponding to line 2-2 of Figs. I and III. Fig. III is a detail horizontal section taken on a line corresponding to 3-3 of Fig. II.

On the drawing, similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawings, 1 represents the gas supply pipe.

The burner in the structure illustrated comprises two members, one of the members having a burner or screen chamber 2 which is barrel-like in shape with an inlet or mixing tube 3 projecting upwardly and laterally therefrom. The tube 3 has a pipe coupling member 4 at its upper end into which the supply pipe 1 is threaded. This cou-

pling member 4 does not communicate directly with the tube 3 but is connected to deliver thereto through the valve casing 5 which is connected to the coupling member 4 by the valve casing coupling 6. The gas delivery nozzle 7 is mounted on the valve casing to deliver centrally to the outer end of the tube 3. The outer end of the tube 3 is arranged through the chimney casing 8, as is also the valve casing coupling member 6, the valve casing being arranged on the outside of the chimney casing.

At the lower end of the chimney casing is a horizontally disposed deflector plate 9 for the chimney flues 10, the plate being provided with openings for the chimney flues, as is clearly shown in Fig. II. On the under side of the deflector plate 9 is a flange-like chimney portion 11. On the outside of this chimney member 11 the plate 9 is provided with air inlet openings 12 through which the air passes from the chimney casing 8 down into the globe 13 to the burners. The burner member described is arranged above the deflector plate and between the chimney flues. This burner member is provided with discharge openings 14, there being four of these openings in the structure illustrated, which are separated by ribs 15.

The burner member 16 is disposed below the plate and has branching passage arms 17, the passages of which register with the openings 14 of the burner member above the plate, the plate having registering openings 18. The burner member 16 is secured in position by means of the centrally disposed screw 19. The burner tips 20 are threaded into the passage arms 17. By forming these passage arms as illustrated, that is branching them, the burners are separated and positioned so that proper draft is secured through the chimneys. The structure illustrated has four of the burner tips.

The globe 13 is carried by globe supporting ring 21, which is carried by the flange plate 9. This ring is in practice hinged but as the hinge will be readily understood and forms no part of the present invention, we do not illustrate or describe the same herein.

The burner chamber 2 is adapted to receive the screen 22 which in the structure illustrated is cylindrical and mounted on the end piece 23 of the chamber. Through this end piece we arrange the rod 24, the inner end of the rod being threaded into the inner

end of the chamber so that the end piece can be clamped in position thereby. A pin 25 through this rod retains the end piece and screen upon rod. The screen is clamped to the end piece by flanging one end inwardly and arranging the disk 26 on the inside of the screen to engage the inturned edge of the screen, the disk being secured by means of screws as 27. The end of the rod 24 projects through an opening 28 in the chimney casing and is provided with a knurled finger piece for convenience in manipulation. With the parts thus arranged the screen can be removed from the chamber for the purpose of cleaning. The removable screen is of particular advantage where the lamp is used in a shop or factory, or in other places where the air is filled with dust or lint or the like.

We have not illustrated in this connection means for controlling the supply of air to the burner, as air valves of various forms may be used in this relation and form no part of the present invention. We have illustrated and described our improvements in a simple effective embodiment; we are aware, however, that various modifications and structural details are possible but as these modifications no doubt will be readily understood by those skilled in the art to which this invention relates, we do not attempt to illustrate or describe the same in detail herein.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In a gas lamp, the combination with the gas supply pipe, of a chimney casing; a chimney comprising a horizontally-disposed deflector plate at the lower end of said casing, a flue above said plate and a skirt portion below said plate; an inverted burner comprising a member disposed above said plate and having a barrel-like screen chamber and an inlet tube projecting upwardly from said screen chamber through the said casing, said chamber being open at one end; an end piece for said burner chamber, and a burner tip member disposed within said chimney skirt; a screen mounted on said burner chamber end piece; and a rod arranged through said end piece to engage the same and threaded to engage the inner end of said burner chamber, said casing being provided with an opening through which said rod projects whereby the screen may be inserted or removed through said casing and said chamber end piece clamped in position or released without disassembling the burner or adjustment of the casing.

2. In a gas lamp, the combination of an inverted burner comprising a member having a barrel-like screen chamber and a mixing tube projecting upwardly therefrom, said screen chamber being open at one end

and being provided with a plurality of burner passage openings, an end piece for said burner chamber, and a burner passage member having burner passage arms registering with the passage openings of said burner chamber, said arms being provided with burner tips; a screen mounted on said burner chamber end piece; and a rod arranged through said end piece and threaded to engage the inner end of said burner chamber to clamp the said end piece in position.

3. In a gas lamp, the combination of an inverted burner comprising a member having a barrel-like screen chamber and a mixing tube projecting upwardly therefrom, said screen chamber being open at one end, an end piece for said burner chamber; a screen mounted on said burner chamber end piece; and a rod arranged through said end piece and threaded to engage the inner end of said burner chamber to clamp the said end piece in position.

4. In a gas lamp, an inverted burner comprising a member having a barrel-like screen chamber and a mixing tube projecting upwardly therefrom, said screen chamber being open at one end and being provided with a plurality of burner passage openings, and a burner passage member having branching burner passage arms registering with the passage openings of said burner chamber mounted on said chamber, said arms being provided with burner tips; a closure for the open end of said screen chamber; and a cylindrical screen adapted to be introduced or removed from said chamber without disassembling the burner.

5. In a gas lamp, the combination with the gas supply pipe, of a chimney provided with a deflector plate at its lower end; an inverted burner comprising a member disposed above said plate and having a barrel-like screen chamber and a mixing tube projecting upwardly and centrally of said chamber, said chamber being provided with a plurality of passage openings; and a burner passage member having burner tips thereon disposed below said plate and secured to said member above said plate by a screw arranged between the tips.

6. In a gas lamp, the combination with the gas supply pipe, of a chimney provided with a deflector plate at its lower end; an inverted burner comprising a member disposed above said plate and having a barrel-like screen chamber and a mixing tube projecting upwardly and centrally of said chamber, said chamber being provided with a plurality of passage openings; and a burner passage member having burner tips thereon disposed below said plate.

7. In a gas lamp, the combination with the gas supply pipe, of a chimney casing; a chimney comprising a flue portion with a deflector plate at its lower end; an inverted

burner comprising a member disposed above said plate and having a screen chamber and an inlet tube, said chamber being open at one end, an end piece for said burner chamber, and a burner tip member disposed on the under side of said plate; a screen mounted on said screen chamber end piece; and a rod arranged through said end piece and threaded to engage the inner end of said burner chamber, said chimney casing being provided with an opening through which said rod projects whereby the screen may be inserted or removed therethrough and the chamber end piece clamped in place without adjustment of the casing or disassembling the burner.

8. In a gas lamp, the combination with the gas supply pipe, of a chimney casing; a chimney comprising a chimney flue with a deflector plate at its lower end; an inverted burner comprising a member disposed above said plate having a screen chamber and a mixing tube projecting upwardly therefrom; and a screen removably arranged in said screen chamber, said casing having an opening through which said screen may be inserted or removed without adjustment of the casing or disassembling the burner.

9. In a gas lamp, the combination with the gas supply pipe, of a chimney casing; a plurality of chimney flues, said supply pipe depending between said flues; a deflector plate at the lower end of said chimney flues; an inverted burner comprising a burner member arranged above said plate between said chimney flues having an inlet tube thereon arranged through said chimney casing, said tube having a supply pipe coupling member thereon provided with a delivery arm projecting through said casing, and a burner tip member arranged below said plate and secured to said member above said plate; a valve casing arranged on the outer side of said chimney casing on said delivery arm of said coupling and having a nozzle thereon delivering to said inlet tube; and a valve casing coupling member projecting laterally through said pipe coupling member through said chimney casing.

10. In a gas lamp, the combination with the gas supply pipe, of a chimney casing; a plurality of chimney flues, said gas supply pipe depending between said flues; a deflector plate at the lower end of said flues; an inverted burner comprising a burner member arranged above said plate between said flues having an inlet tube thereon arranged from between said flues through said chimney casing; a coupling on said supply pipe having an arm projecting through said casing; a valve on said arm provided with a nozzle delivering to said inlet tube; and a burner tip member arranged below said plate.

11. In a gas lamp, the combination with the gas supply pipe, of a chimney casing; a chimney; a deflector plate at the lower end of said chimney; and an inverted burner comprising a member disposed above said plate having a screen chamber therein and a member disposed below said plate having a burner tip thereon, and a screen arranged in said screen chamber and adapted to be inserted or removed therefrom without disassembling the burner, said casing being provided with an opening through which said screen may be inserted or removed.

12. A gas lamp comprising in combination, a chimney, a deflector plate arranged at the lower end of said chimney, an inverted burner comprising a burner chamber member arranged above said plate, a burner tip member arranged below said plate, and a screen arranged in said burner member above said plate and adapted to be inserted or removed therefrom without disassembling the burner.

In witness whereof, we have hereunto set our hands and seals in the presence of two witnesses.

FREDERICK J. HUMPHREY. [L. S.]
HUBERT R. HUMPHREY. [L. S.]

Witnesses:
L. G. GREENFIELD,
M. P. WOODRUFF.