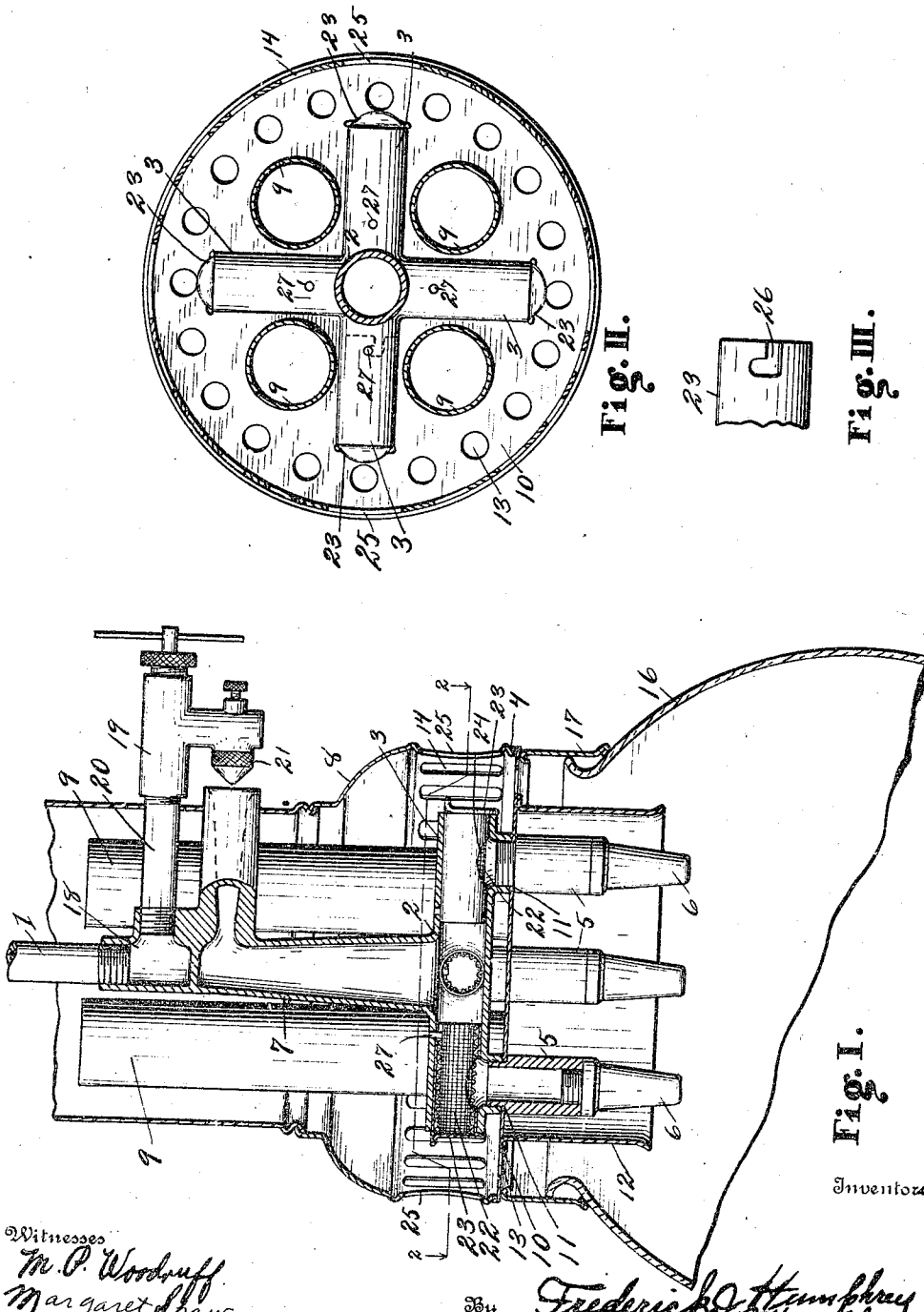


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GAS LAMP.
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1,015,564.

Patented Jan. 23, 1912.



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GAS-LAMP.

1,015,564.

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, county of Kalamazoo, State of 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 burner type, an improved burner structure. Third, to provide in a gas lamp of the inverted burner type, an improved burner in which the burner screens are readily accessible without disassembling the burner, and the parts of the burner are arranged so that they do not become unduly heated in use.

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 specification, in which:

Figure I is a detail view, partially in vertical section, of a structure embodying the features of our invention. Fig. II is a horizontal section taken on a line corresponding to the broken line 2-2 of Fig I, looking in the direction of the little arrows at the end of the section lines. Fig. III is a detail plan view of one of the screen holders 23.

In the drawing, similar reference characters refer to similar parts throughout the several views.

Referring to the drawing, 1 represents the gas supply pipe. The burner comprises a body member 2 having burner passage arms 3, the arms being open at their outer ends and provided with downwardly-projecting nipples 4 into which the tube-like burner tip members 5 are threaded, the burner tips 6 being threaded into the lower ends of these members 5.

The burner member 2 is provided with an upwardly and laterally-projecting inlet tube

7, the outer end of which projects through the chimney casing 8, as is clearly illustrated in the drawing. The passage arms 3 are disposed between the chimney flues 9 and above the chimney deflector plate 10. The deflector plate is provided with openings registering with the nipples 4 on the burner passage arms 3. The burner tip members 5 are threaded into the nipples and shouldered at 11 to clamp the plate 10. On the under side of the plate is a flange-like portion 12 surrounding the burner tips to direct the heated gases and products of combustion to the chimney flues and the incoming air to the burner tips.

The mantles are not shown herein as their arrangement will be readily understood.

The plate 10 is provided with air inlet openings 13 through which the air enters from the chimney casing, the chimney plate having air inlet openings 14 into the globe 16. The globe 16 is carried by the globe supporting band 17. This band is, in practice, hinged, but as this feature forms no part of the present invention, we do not illustrate or describe the same herein.

The inlet tube 7 is preferably provided with an integrally formed supply pipe coupling 18. This coupling does not communicate directly with the tube, but the gas is delivered to the inlet tube through the valve casing 19 which is arranged on the outside of the chimney casing and connected to the supply pipe coupling member 18 by means of the coupling member 20, which projects through the casing. On the valve casing is a gas delivery nozzle 21, delivering to the gas inlet tube 7.

The details of the nozzle and supply valves are not illustrated, as they form no part of the present invention.

The burner passage arms are adapted to receive the screens 22, which, in the structure illustrated, are cylindrical and carried by the cylindrical screen holders 23 adapted to slip into the open outer ends of the arms, as clearly illustrated. These screen holders are open at their inner ends and have openings on their under sides at 24. The holders are closed at their outer ends and serve to close the open ends of the passage arms.

The casing is provided with openings 25 through which the screens may be introduced or removed. The holders are retained and located by providing them with

bayonet slots 26 adapted to engage the pins 27 on the burner. The screens thus arranged and supported are readily accessible for the purpose of cleaning or renewal without the necessity for disassembling the burner. The parts of the burner are so located and protected that it is prevented from becoming unduly heated and is compact and simple in structure.

10 We have illustrated and described our invention in a simple and effective embodiment thereof. We are aware that considerable modifications in structural details are possible, but as these modifications will no doubt be readily understood by those skilled in the art to which this invention relates, we do not attempt to illustrate or describe the same herein.

Having thus described our invention, 20 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 plurality of discharge flues; a deflector plate at the lower ends of said flues and a skirt portion below said flues, said deflector plate being extended beyond said skirt to provide a chimney flange, said casing being mounted on said flange; a burner comprising a member arranged above said plate and having a mixing tube disposed centrally of said flues, said mixing tube being provided with a laterally-projecting inlet arm at its upper end and with horizontal burner passage arms at its lower end provided with downwardly-projecting discharge nipples; burner tip members arranged below said deflector plate within the skirt portion of said chimney, said tip members being suspended from said passage arms; a gas supply pipe coupling on said burner member provided with an arm projecting laterally through said casing; a valve therefor provided with a delivery nozzle delivering to the inlet arm of said mixing tube; burner screens; and holders therefor arranged in said passage arms, said holders being adapted to close the outer ends of said arms, said casing having openings therein above said flange through which said screen holders may be inserted or removed without adjustment of the casing or disassembling of the burners.

2. In a gas lamp, the combination with the gas supply pipe, of a chimney casing; a chimney comprising a plurality of discharge flues; a deflector plate at the lower ends of said flues and a skirt portion below said flues, said deflector plate being extended beyond said skirt to provide a chimney flange, said casing being mounted on said flange; a burner comprising a member arranged above said plate and having a mixing tube disposed centrally of said flues, said mixing tube being provided with a lat-

erally-projecting inlet arm at its upper end and with horizontal burner passage arms at its lower end provided with downwardly-projecting discharge nipples; burner tip members arranged below said deflector plate within the skirt portion of said chimney, said tip members being suspended from said passage arms; a gas supply pipe coupling on said burner member provided with an arm projecting laterally through said casing; and a valve therefor provided with a delivery nozzle delivering to the inlet arm of said mixing tube.

3. In a gas lamp, the combination with the gas supply pipe, of a chimney casing; a chimney comprising a plurality of discharge flues; a deflector plate at the lower ends of said flues and a skirt portion below said flues, said deflector plate being extended beyond said skirt to provide a chimney flange, said casing being mounted on said flange; a burner comprising a member arranged above said plate and having a mixing tube disposed centrally of said flues, said mixing tube being provided with horizontally-disposed burner passage arms at its lower ends; burner tip members arranged below said deflector plate within the skirt portion of said chimney; burner screens; and holders therefor arranged in said passage arms, said holders being adapted to close the outer ends of said arms, said casing having openings therein above said flange through which said screen holders may be inserted or removed without adjustment of the casing or disassembling of the burners.

4. In a gas lamp, the combination with the gas supply pipe, of a chimney casing; a chimney comprising a plurality of discharge flues; a deflector plate at the lower ends of said flues and a skirt portion below said flues, said deflector plate being extended beyond said skirt to provide a chimney flange, said casing being mounted on said flange; a burner comprising a member arranged above said plate and having a mixing tube disposed centrally of said flues, said mixing tube being provided with horizontally-disposed burner passage arms at its lower ends; and burner tip members arranged below said deflector plate within the skirt portion of said chimney.

5. In a gas lamp, the combination with the supply pipe, of a chimney casing; a chimney comprising a plurality of chimney flues; a deflector plate at the lower end of said flues and a skirt portion below said plate; a burner member arranged above said plate comprising horizontally-disposed burner passage arms arranged between said flues, and a central mixing tube projecting upwardly from said arms, said arms being open at their outer ends and having downwardly-projecting burner nipples thereon,

said deflector plate having openings registering with said nipples; a nozzle adapted to deliver to said mixing tube connected with said gas supply pipe; burner tip members arranged below said deflector plate and suspended from said nipples; and screens arranged in said burner passage arms and removable therefrom through said casing.

6. In a gas lamp, the combination with the supply pipe, of a chimney casing; a chimney comprising a plurality of chimney flues; a deflector plate at the lower end of said flues and a skirt portion below said plate; a burner member arranged above said plate comprising horizontally-disposed burner passage arms arranged between said flues and a central mixing tube projecting upwardly from said arms, said arms having downwardly-projecting burner nipples thereon, said deflector plate having openings registering with said nipples; a nozzle adapted to deliver to said mixing tube connected with said gas supply pipe; and burner tip members arranged below said deflector plate and suspended from said nipples.

7. In a lamp, the combination with a gas supply pipe, of a chimney casing; a chimney comprising a deflector plate arranged at the lower end of said casing and a flue above said plate; a burner member arranged above said plate comprising horizontally-disposed burner passage arms, said arms being open at their outer ends; burner tip members arranged below said deflector plate; burner screens; and holders therefor arranged in said passage arms, said holders being adapted to close the outer ends of said arms, said casing having openings above said deflector through which said screen holders may be inserted or removed without the removal of the casing or the disassembling of the burner.

8. In a lamp, the combination with a gas supply pipe, of a chimney casing; a chimney comprising a deflector plate arranged at the lower end of said casing and a flue above said plate; a burner member arranged above said plate comprising horizontally-disposed burner passage arms, said arms being open at their outer ends; burner tip members arranged below said deflector plate; and burner screens, said casing having openings above said deflector through which said screens may be inserted or removed without the removal of the casing or the disassembling of the burner.

9. In a gas lamp, the combination with the supply pipe, of a chimney casing; a chimney comprising a flue and a deflector

plate therefor; a burner comprising a mixing tube projecting from said casing and having a screen chamber therein above said plate; a screen adapted to be inserted or removed from said chamber through said casing; a supply pipe coupling provided with a delivery arm projecting through said casing; and a valve provided with a delivery nozzle mounted on said arm so that the nozzle delivers to said mixing tube.

10. In a gas lamp, the combination with the gas supply pipe, of a chimney casing; a chimney comprising a flue portion and a deflector plate at the lower end of said flue portion and a skirt portion below said plate; a burner comprising a member arranged above said plate and having a screen chamber therein; and a burner screen, said screen being adapted to be introduced into or removed from said chamber through said casing without disassembling the burner.

11. In a gas lamp, the combination with the supply pipe, of a chimney casing; a chimney comprising a flue portion and a deflector plate therefor; a burner comprising a member arranged above said plate and having a plurality of horizontally-disposed burner passage arms; and burner screens arranged in said arms and removable through the casing without disassembling the burner.

12. In a gas lamp, the combination with the supply pipe, of a plurality of chimney flues; a deflector plate therefor; a burner comprising a member arranged above said deflector having horizontal burner passage arms disposed between said flues and a mixing tube disposed centrally thereof, the arms being open at their outer ends; burner screens removably arranged in said arms through their outer ends; and burner tips arranged below said plate and connected to said burner passage arms.

13. A gas lamp comprising, in combination, a plurality of chimney flues and a deflector plate therefor; a burner comprising a member arranged above said plate having horizontal burner passage arms disposed between said flues and in close proximity to said plate, and a mixing tube projecting upwardly from said arms; and burner tip members arranged below said plate connected to said arms.

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:

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