

No. 845,166.

PATENTED FEB. 26, 1907.

R. M. DIXON.
INCANDESCENT GAS LAMP.
APPLICATION FILED MAR. 22, 1906.

2 SHEETS—SHEET 2.

Fig. II.

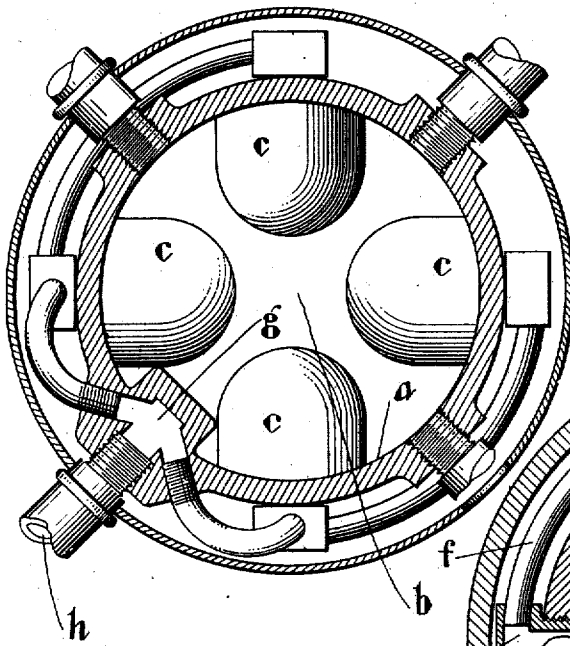


Fig. III.

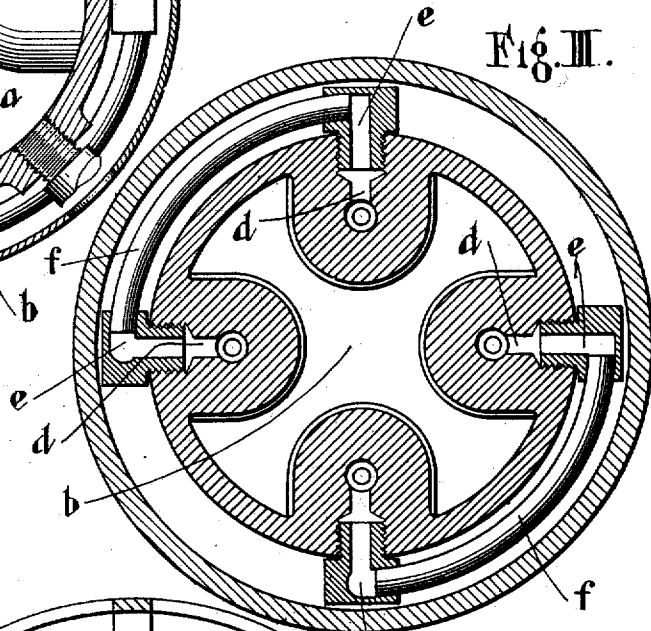
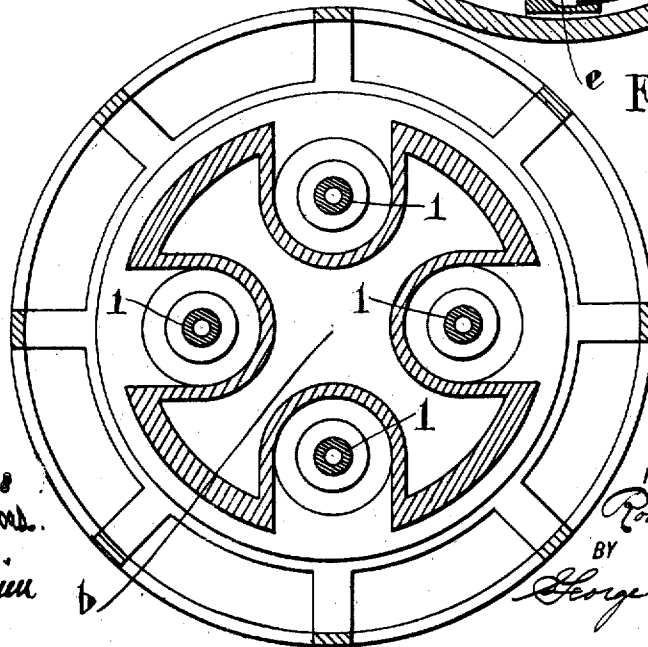


Fig. IV.



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INCANDESCENT GAS-LAMP.

No. 845,166.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT M. DIXON, a citizen of the United States, residing at East Orange, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Incandescent Gas-Lamps, of which the following is a specification.

My invention relates to incandescent gas-lamps, and particularly to that class of incandescent gas-lamps which are known as "inverted" burners.

In the accompanying drawings I have shown one form of lamp in which my invention may be embodied and for the purposes of convenience have shown it as a lamp especially adapted for use in railway-cars where the lamps are located close to the ceiling, and therefore a lamp which gives a substantially maximum downward reflection of light will be most efficient.

In the drawings, Figure I is a transverse vertical section of a lamp in which my invention is embodied. Fig. II is a section through the lamp on the line II II of Fig. I. Fig. III is a section on the line III III of Fig. I, and Fig. IV is a section on the line IV IV of Fig. I.

As the problem of successfully operating lamps of this type upon a railway-car has been considered particularly difficult of solution, I will describe the lamp shown in the drawings as though it were simply a car-lamp, but would have it understood that I do not desire to have my claims limited thereto.

In these drawings, *a* indicates what for the want of a better term I shall describe as a "center" casting. Within this center casting is a cruciform space *b* for removing from the lamp the products of combustion. This cruciform space is bounded by a series of chambers *c*, within which series of chambers some of the operating parts of the inverted Bunsen burners are adapted to be carried. The chambers *c* are closed at the top to form gasways *d*, (see Figs. I and III,) to which gas is brought by a series of nipples *e*, suitably connected by means of pipes *f*, which are connected by a branched pipe or duct *g* to a gas-supply pipe *h*. The center casting *a* is shown as provided with a downwardly-depending flange *i*, apertured at its lower edge, as by apertures *j*, for the passage of air and adapted to support the support-ring *k*, which is shown as screwed thereon. The support-

ring *k* is shown as surmounted by a crown-piece *l*, which is apertured laterally, as at *o*, for the passage of air. The center casting is surmounted by a draft-tube or chimney *p* of the elongated form, which draft-tube or chimney is preferably of considerable length, but is shown broken away in the drawings for the purposes of convenience.

The support-ring *k* is shown as provided with a depending arm *q*, to which is hinged an upwardly-extending arm *r*, which supports a bezel or globe-supporting ring *s*. The bezel or globe-supporting ring *s* is provided with a spun ring *t*, beneath whose lower edge the abruptly inwardly turned edge *u* of the globe *v* extends and is directly supported thereby. A suitable catch *w* is provided for holding the globe-supporting ring *s* in position.

The burners which I preferably employ are preferably of the form shown in the drawings and have their mixing-chambers located within the spaces comprised by the chambers of the center casting and project downwardly therefrom for a sufficient distance to produce an efficiently-burning air-and-gas mixture and sufficiently far into the globe to reach about the center thereof and leave a free or unobstructed space around the same.

In the preferred form of construction shown in the drawings a nipple 1 is screwed into the gasway *d* and is provided with a delivery-plate 2, shown herein as centrally apertured. Threaded to the nipple 1 is a Bunsen or mixing tube 3, provided with lateral inlet-apertures 4 at a point immediately below the delivery-plate 2. The lower end of the Bunsen or mixing tube is shown as provided with an annular slot or shoulder 5, adapted for the reception of the ends of the hooks 6 of a suitable split socket 7, whose internally-projecting flange 8 embraces an outwardly turned or formed flange 9 of a tubular mantle-support 10, having a delivery-tube 11 delivering into the interior of a mantle 12 at about the center thereof, which mantle is suitably supported, as by means of an annular supporting device 13, from the mantle-support 10. A sleeve or reflector 15 is adapted to slide freely upon the Bunsen tube 13. This sleeve is preferably tapered from the top downwardly and serves the triple purposes, first, of protecting the Bun-

sen tube from undue heat; second, of serving as a reflector, and, third, by means of a tapering annular recess 16 in its lower end causing the hooks 6 to be securely engaged with the slot or shoulder 5.

The detailed construction of the mantle-supporting device will be obvious from an inspection of Fig. 1, wherein one of the mantles is shown in side view as in position on the Bunsen tube. The other mantle is shown in side view as ready to be put into position, and the third mantle is shown as in section to fully and in detail illustrate the construction and operation of the parts.

It will be understood that the gas which I contemplate employing in the lamp shown in the drawings is Rintsch gas and ordinarily is supplied to the lamp under a pressure of several atmospheres, which is reduced by a suitable regulator—say a regulator of the ordinary Rintsch type. The air need not necessarily be brought into the lamp under pressure, as the rush of the gas under pressure will cause an influx of air. As is well understood, the gas enters the gasway *d*, passes through the nipple 1 to the distributing-plate 2, which, as aforesaid, is centrally apertured, and thence to the Bunsen tube or mixing-chamber 3. The air enters the lamp through the apertures *e* in the side of the cap or crown-piece, is conducted into the chambers *c*, which surround the Bunsen tube, and thence passes the apertures 4 in the Bunsen tube, where the mixing takes place. The products of combustion are removed from the lamp through the cruciform chamber or channel *b* of the center casting, being drawn upward by the suction produced by the elongated draft-tube or casing *p*.

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

1. In an inverted incandescent gas-lamp, the combination of a body portion having a central channel, a globe, a plurality of incandescent gas-burners and means for removing products of combustion through the central channel.

2. In an inverted incandescent gas-lamp, the combination of a center casting having a central passage, a plurality of chambers, a plurality of inverted incandescent gas-burners having their mixing-chambers located in the said chambers, substantially as described.

3. In an inverted incandescent gas-lamp, the combination of a chambered center casting having a central flue and a plurality of inverted incandescent gas-burners arranged in the said chambers and a globe surrounding the said burners.

4. In an inverted incandescent gas-lamp, the combination of a body or center casting, a series of inverted incandescent gas-burners, means for bringing a supply of air to the inverted incandescent gas-burners from the

outside of the body or center casting and means for withdrawing the products of combustion through the interior of the body or center casting.

5. In an inverted incandescent gas-lamp, the combination of a center casting provided with an interior duct for products of combustion and chambers for the reception of inverted incandescent gas-burners, of inverted incandescent gas-burners located within the said chambers and having their mixing-chambers enveloped by the said chambers in the center casting.

6. In an inverted incandescent gas-lamp, the combination of a chambered body portion, inverted gas-burners communicating with the said chambered body portion and a central duct for removing the products of combustion.

7. In an inverted incandescent gas-lamp, the combination of a group of incandescent gas-burners, an enveloping globe closed at the bottom and a duct leading from the upper end of said group for removing products of combustion from the interior thereof, substantially as described.

8. In an inverted incandescent gas-lamp, the combination of a body or center casting, a group of inverted incandescent burners, separate means embodied in the casting for bringing air separately to each burner and a common means for discharging products of combustion.

9. In an inverted incandescent gas-lamp, the combination of a body or center casting, a group of inverted incandescent burners, separate means embodied in the casting for bringing air separately to each burner and a common means for discharging products of combustion.

10. In an inverted incandescent gas-burner, the combination of a mixing-chamber, a mantle having a clasp device and a sliding sleeve for protecting said mixing-chamber against heat adapted to maintain the clasp device in engagement with a support.

11. In an inverted incandescent gas-burner, the combination of a suitable clasp device, a suitable grooved support with which the clasp device is adapted to engage, a mantle carried by the clasp device and a sliding sleeve adapted to engage said clasp device.

12. In an inverted incandescent gas-burner, the combination of a suitable mantle, an inverted mixing-chamber and a sliding protecting-sleeve therefor, substantially as described.

13. In an inverted incandescent gas-burner, the combination of a suitable mantle, a mixing-chamber and a tapering sliding protecting-sleeve for protecting the said mixing-chamber.

14. In a gas-lamp, the combination of a

center casting having a plurality of chambers on the outside and a central duct or flue, a plurality of inverted incandescent gas-burners contained within the said chambers and provided with protecting-sleeves.

15. In a gas-lamp, the combination of a center casting having a plurality of chambers on the outside and a central duct or flue, a plurality of inverted incandescent gas-burners contained within the said chambers and provided with protecting-sleeves and a globe supported below the center casting and enveloping the burners.

16. In a gas-lamp, the combination of a center casting having a plurality of chambers on the outside and a central duct or flue, a plurality of inverted incandescent gas-burners contained within the said chambers and provided with protecting-sleeves and a globe supported below the center casting and enveloping the burners.

17. In an inverted incandescent gas-lamp, the combination of a burner, means for entirely enveloping the burner and protecting same from atmospheric disturbances comprising in part a sliding sleeve and in part by a translucent globe and means for bringing to the said burner through the mixing-tube thereof an air-and-gas mixture constituting the sole effective source of gas-supply.

18. In an inverted incandescent gas-lamp, the combination of a suitable globe and a plurality of inverted incandescent gas-burners, means for supplying air and gas entirely from above and a duct leading from the upper ends of said burners for removing the products of combustion through the center portion of the lamp.

19. In an inverted incandescent gas-lamp, the combination of a group of inverted incandescent gas-burners, an enveloping globe and means for removing the products of combustion from within the group and conducting the same through the top of the lamp.

20. In a device of the class described, in combination, an inverted gas-burner, a sliding sleeve for protecting the same, said burner being provided with a groove near the lower end thereof, a device having inwardly-turned fingers which are adapted to be received in said groove, and a mantle carried by said device, said sliding sleeve being provided with a shoulder adapted to take about a portion of said device and maintain the fingers thereof in said groove.

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Witnesses:

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