

No. 748,363.

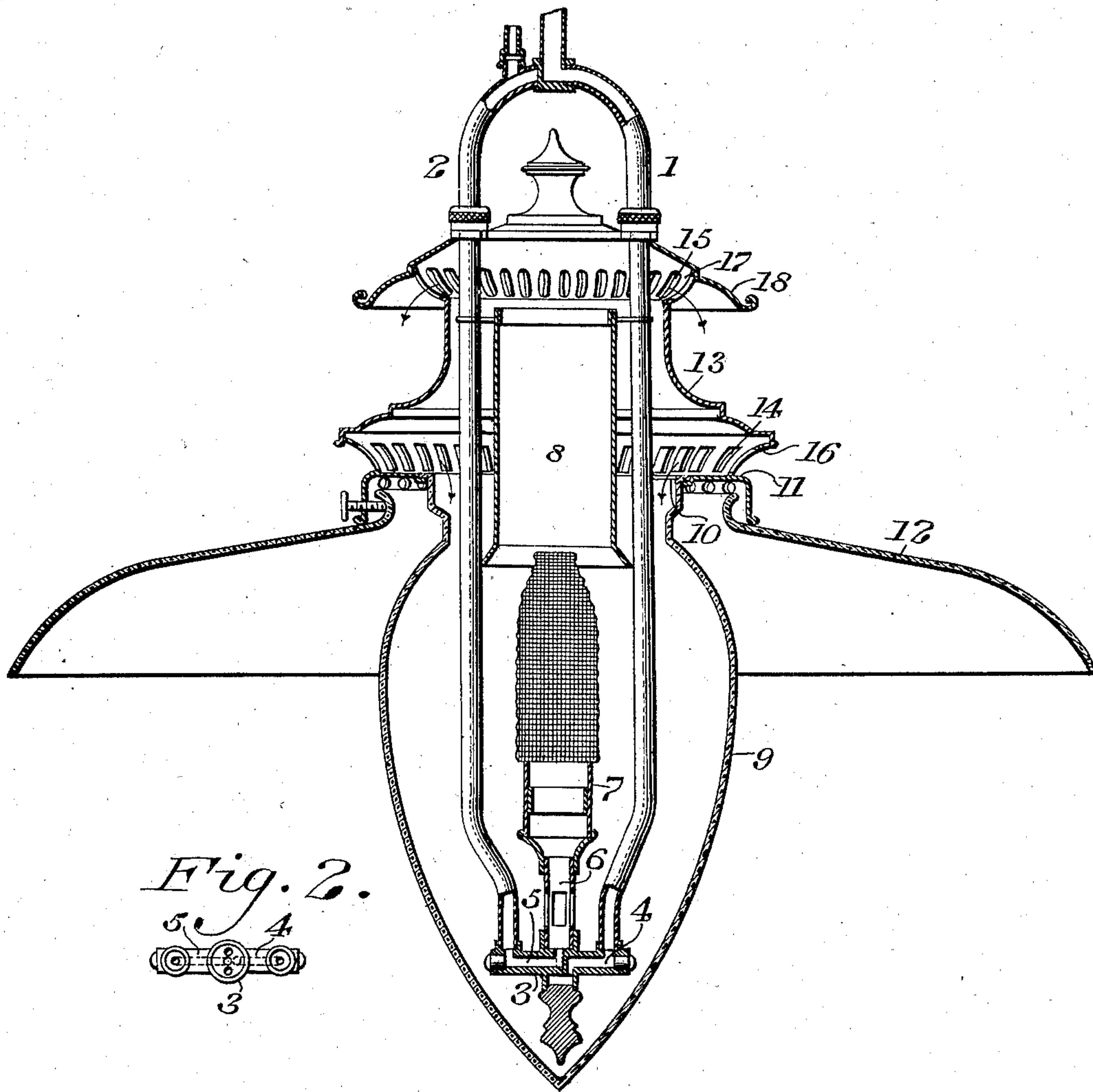
PATENTED DEC. 29, 1903.

T. GORDON.  
GAS LAMP.

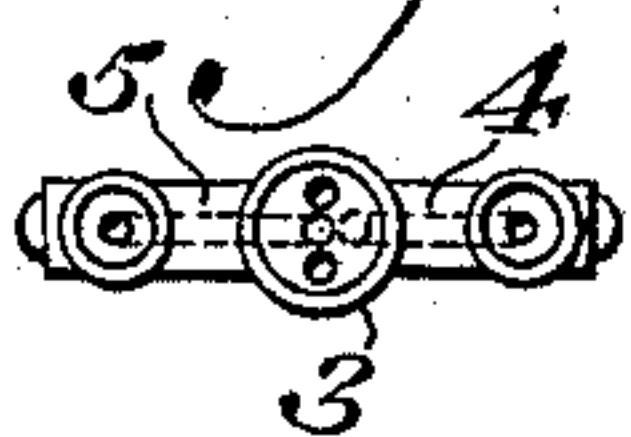
APPLICATION FILED MAY 13, 1903.

NO MODEL.

*Fig. 1.*



*Fig. 2.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## GAS-LAMP.

SPECIFICATION forming part of Letters Patent No. 748,363, dated December 29, 1903.

Application filed May 13, 1903. Serial No. 156,870. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS GORDON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Gas-Lamps, of which the following is a specification.

My invention relates to incandescent lamps.

It consists of means for introducing air under pressure and gas to the mixing-chamber of a burner and means for controlling the free air-supply to such burner.

It further consists of novel details of construction, all as will be hereinafter fully set forth.

Figure 1 represents a partial elevation and partial vertical section of a gas-lamp embodying my invention. Fig. 2 represents a top plan view of the fitting connecting the lower ends of the gas and air tubes detached from the device.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 and 2 designate pipes leading downwardly from reservoirs (not shown) of gas and air under pressure. As shown, these tubes form the sides of a "harp" or lamp-suspending device and are connected at their lower ends by a fitting 3, which provides separate passages 4 and 5 for the gas and air to the mixing-chamber 6 of an ordinary incandescent burner 7. It will be seen in Fig. 2 that the passages 4 and 5 terminate in ports aligned so that one of the fluids, as the air, is directed upward between the rising currents of the other fluid, as the gas. Above the burner 7 is supported a draft-divider or chimney 8. Surrounding the lower end of this chimney is a globe 9, supported in and filling the opening 10 in a holder 11, which may also serve to support a shade 12. The holder 11 serves as a base for a casing 13, which has a plurality of apertures 14 surrounding the chimney 8 and a second ring of apertures 15 above the top of such chimney. As shown, the apertures 14 and 15 are preferably cut in flanges or casing members 16 and 17, which extend outwardly and upwardly, so that the apertures are protected by the imperforate casing members immediately

thereabove from downward drafts and from rain or snow. As an additional safeguard an outwardly and downwardly projecting flange 18 may encircle the apertures 15.

It will be readily understood that the entire casing may be secured to the harp in any well-known or desired manner.

The operation is as follows: Gas and air in due proportion being admitted to the tubes 1 and 2 and passing through the fitting 3 unite in the mixing-chamber 6. Their upward flow acts to draw in an additional supply of air through the usual lateral openings or "windows" in the burner 7. This free air is drawn through the apertures 14 in the casing 13 and downward in the globe 9 by means of the upward draft of the products of combustion in the chimney 8, such heated gases passing out of the upper apertures 15.

It will be noted that the lower end of the draft-divider or chimney 8 is entirely above the zone of combustion—*e. g.*, the incandescent mantle—that its upper end is below or in the plane of the exit-apertures 15, and that it is encircled by the air-admission aperture 14. As no air-currents are produced in the globe 9 by which the mantle can be injured, the usual translucent chimney is unnecessary, the tube 8 serving to separate the entering downward air-currents from the escaping upward heated products of combustion.

Among the advantages of my device are the perfect protection of an incandescent mantle from draft and from the weather, the equal preheating of the gas and air supplied to the chamber, the intimate admixture of the gas and air, the regulation and steadying of the currents of free air admitted not only to the mixing-chamber, but as well to cool the globe, and the simplicity and economy of its construction.

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

1. A gas-lamp comprising a burner, a globe closed except at its upper end surrounding said burner, a casing above said globe having air-admission and gas-exit apertures in different planes and an imperforate draft-divider located above the zone of combustion



and extending above said air-admission aperture and not substantially above said gas-exit aperture.

2. A gas-lamp comprising a burner, a globe  
5 closed except at its upper end surrounding  
said burner, a casing above said globe, an imperforate draft-divider in said casing above  
the zone of combustion, an air-admission aperture in said casing in a plane intermediate  
10 the ends of said divider and a gas-exit aperture in said casing substantially above said divider.

3. A gas-lamp comprising a burner, tubes  
adapted to convey gas and air under pressure to said burner, a globe surrounding said  
15 burner, means for the admission of free air adjacent the upper end of said globe and an imperforate draft-divider above the zone of combustion and extending upward out of said  
20 globe.

4. A gas-lamp comprising a burner, tubes adapted to convey gas and air under pressure to said burner, a globe surrounding said

burner, a casing above said globe, an imperforate draft-divider above the zone of combustion and within said casing, an air-admission aperture in said casing in a plane intermediate the ends of said divider and a gas-exit aperture from said casing substantially  
above said divider. 25 30

5. A gas-lamp comprising an incandescent burner, tubes adapted to convey gas and air under pressure to said burner, a globe closed except at its upper end surrounding said  
burner, a casing above said globe, an imperforate draft-divider substantially above the  
mantle of said burner and within said casing, an air-admission aperture in said casing in a  
plane intermediate the ends of said divider and a gas-exit aperture in said casing substantially  
above said divider. 35 40

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