F. V. RISINGER.

GAS LAMP.

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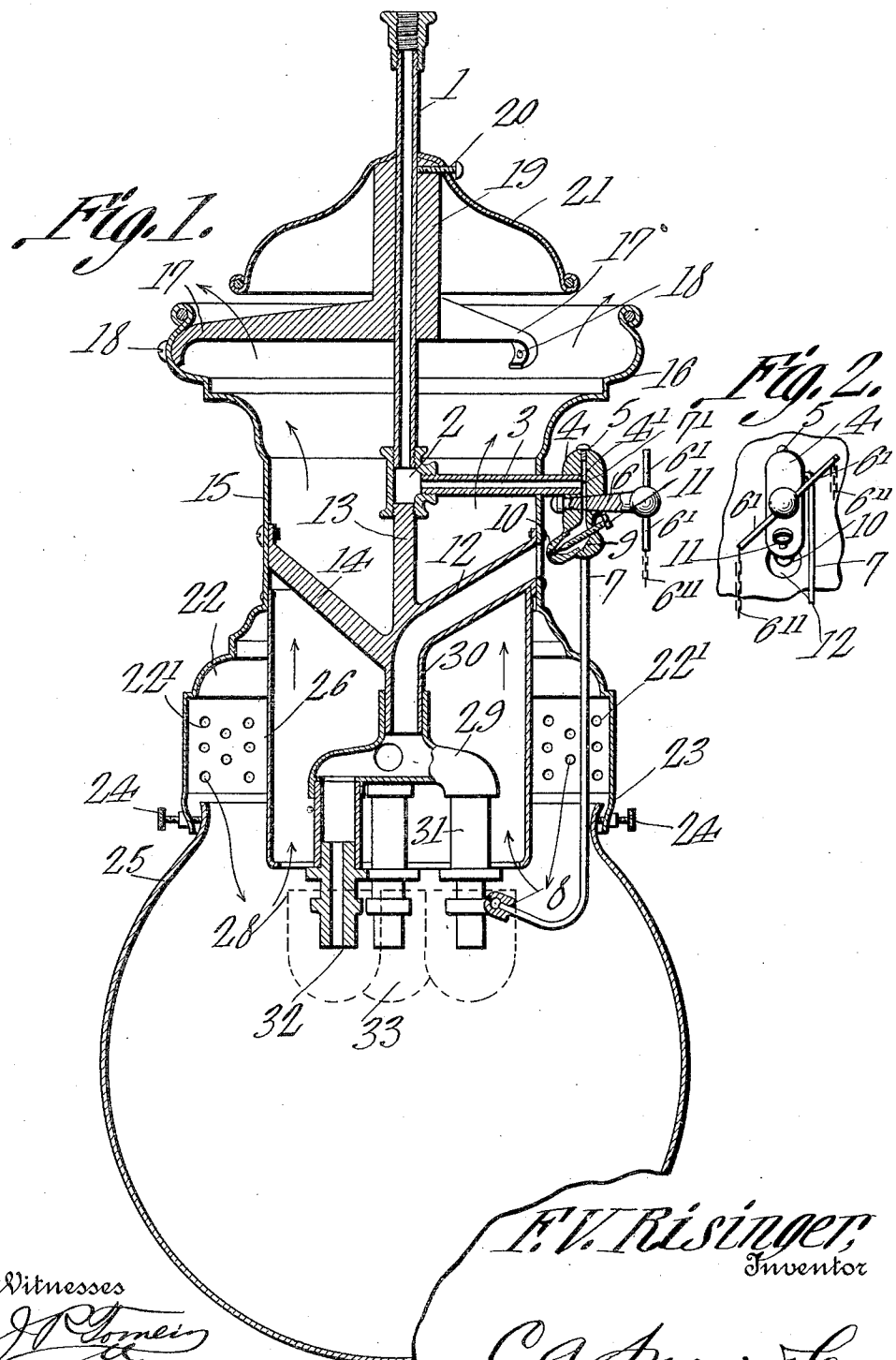
1,086,560. Patented Feb. 10, 1914.



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GAS-LAMP.

1,086,560. Specification of Letters Patent. **Patented Feb. 10, 1914.**

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To all whom it may concern:

Be it known that I, FRANK V. RISINGER, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented a new and useful Gas-Lamp, of which the following is a specification.

The present invention relates to improvements in gas lamps, the primary object of the invention being the provision of what is termed an inverted mantle gas arc lamp, the construction of the same in outline elevation being an imitation of an electric arc lamp the illuminating power thereof being gas, and having a peculiar construction of Bunsen burner for supplying the gas and air to the series of inverted mantles.

A further object of this invention is the provision of a novel construction of supporting cylinder and spider device for retaining the cylinder relatively to the air supply and main supporting pipe, in combination with a novel form of an adjustable valve and pivoted gas controlling cock, by which the gas is supplied downwardly at an angle to the central conduit commingling air therewith and delivering the properly aerified gas to the series of inverted burners disposed at the lower end of the casing of the lamp and within the glass globe thereof.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a vertical central sectional view through the lamp casing and globe, and also through the Bunsen burner thereof. Fig. 2 is a side elevation of the improved gas controlling valve and pilot tube.

Referring to the drawings, 1 designates the main gas supply pipe which forms the support for the complete lamp, the lower end of said pipe having secured thereto a T-coupling 2, the side port of which is connected by means of a radially disposed horizontal pipe 3 to a valve casing 4 provided with an open ended vertical duct 4′ having its upper end sealed by a clean out screw or plug 5. Disposed transversely of the valve casing is a valve 6 which is controllable manually through the medium of the arms 6′, which are provided with the operating flexible connections 6″. Leading from the duct 4′ above the valve 6 is a port 7′, which is in communication with and permits the feeding of gas through the pilot pipe 7 to the pilot burner or nozzle 8, which is disposed in operable relation to the inverted burners 33.

The lower end 9 of the duct 4′ is enlarged and has leading therefrom the burner tip and valve seat 10, the outlet from which is controlled by a needle valve 11, which is adapted to be held at the desired adjustment so that the gas admitted to the valve casing will be projected through the nozzle 10 at the proper angle and centrally of the upper open end of the inclined Bunsen tube 12, which is formed integral with the main support or stem 13 whose upper end is threaded in the lower branch of the T-coupling 2, and permits the Bunsen tube 12 and the lateral arm 14 to properly support the cylinder 15 of the lamp casing.

The upper end 16 of the cylinder 15 is flared as shown and has connected thereto at 18 the radially extending arms 17, said arms being cast or formed integral with the sleeve or collar 19, which is connected to the supporting pipe 1, by means of a set screw 20, said set screw 20 also holding the dome or hood 21 in the position shown in Fig. 1, thereby forming a cover for the upper end of the lamp but permitting egress of the products of combustion between the upper edge of the flared portion 16 and the lower edge of the dome 21. The lower end of the cylinder 15 is flared outwardly and downwardly as at 22 being provided with the perforated cylindrical portion 22′ and with the inwardly flared flange 23, which is provided with a series of set screws 24, whereby the globe 25 is properly held and supported by the casing 15, said globe being known as a sealed or closed globe, so that the air instead of being admitted through the lower central portion of the globe is admitted through the perforations in the cylindrical portions 22′ downwardly through the central opening 28 taking the course of the arrows, provided in the lower end of the

cylinder or casing 26 which is mounted concentrically of and within the lower cylindrical portion of the casing 15.

Connected to the lower end 30 of the Bunsen tube 12, said lower end being vertical and in alinement with the main conduit 1, is a casting or spider 29, which is preferably provided with a series of five stems or gas conduits each one of which has mounted therein the vertical tube 31, carrying the burner tube 32, which in turn supports the inverted mantle 33, the pilot burner 8 being disposed to project within the cluster of mantles 33 and being ignited at all times and in operable relation to ignite the gas in the mantles 33 when the valve 6 is operated to permit the flow of gas from the conduit 3 through the valve casing into the upper end of the inclined Bunsen tube 12.

From the foregoing description taken in connection with the drawings, it is evident that by employment of the spider 17 with its sleeve 19 and screw 20, that the main supporting and supplying pipe 1 may be rotated therewithin and properly connected to the feed coupling 2 after which the set screw 20 is to secure the pipes 1 against turning and permit the same to be a proper support for the entire lamp, the stem 13 with the arms 14 and Bunsen conduit 12 also assisting in supporting the cylinder 15 through the supply pipe 1 and its connections.

By mounting the valve casing 4 as shown the same is readily accessible from the outside of the main casing, the needle valve 11 being readily adjustable to supply the proper quantity of gas to the upper open and inclined end of the Bunsen conduit 12, so that the gas may be fed with the air downwardly at an incline to the center of the lamp where it is properly distributed to the cluster of inverted burners 33, the inclined arrangement permitting a direct and uninterrupted flow of the gas, and the proper commingling thereof with the oxygen in the air to produce the highest incandescence.

What is claimed is:

The combination with a lamp-casing, of a four-armed one-piece member disposed therein and comprising two vertically disposed arms and two upwardly diverging arms, one of the vertically disposed arms being solid and constituting the means of attachment to the gas-supply pipe and one of the inclined arms and the remaining vertical arm constituting a Bunsen tube, a casting secured to the lower end of the last vertical arm and in communication with the Bunsen tube, a cluster of burners carried by the casting, and means for supplying gas in regulated quantities to the upper end of the Bunsen tube.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FRANK V. RISINGER.

Witnesses:
LOUIS A. PONEMON,
CHARLES KIRSCH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."