

R. L. DORAN.
INCANDESCENT VAPOR LAMP.

(Application filed Apr. 28, 1898.)

(No Model.)

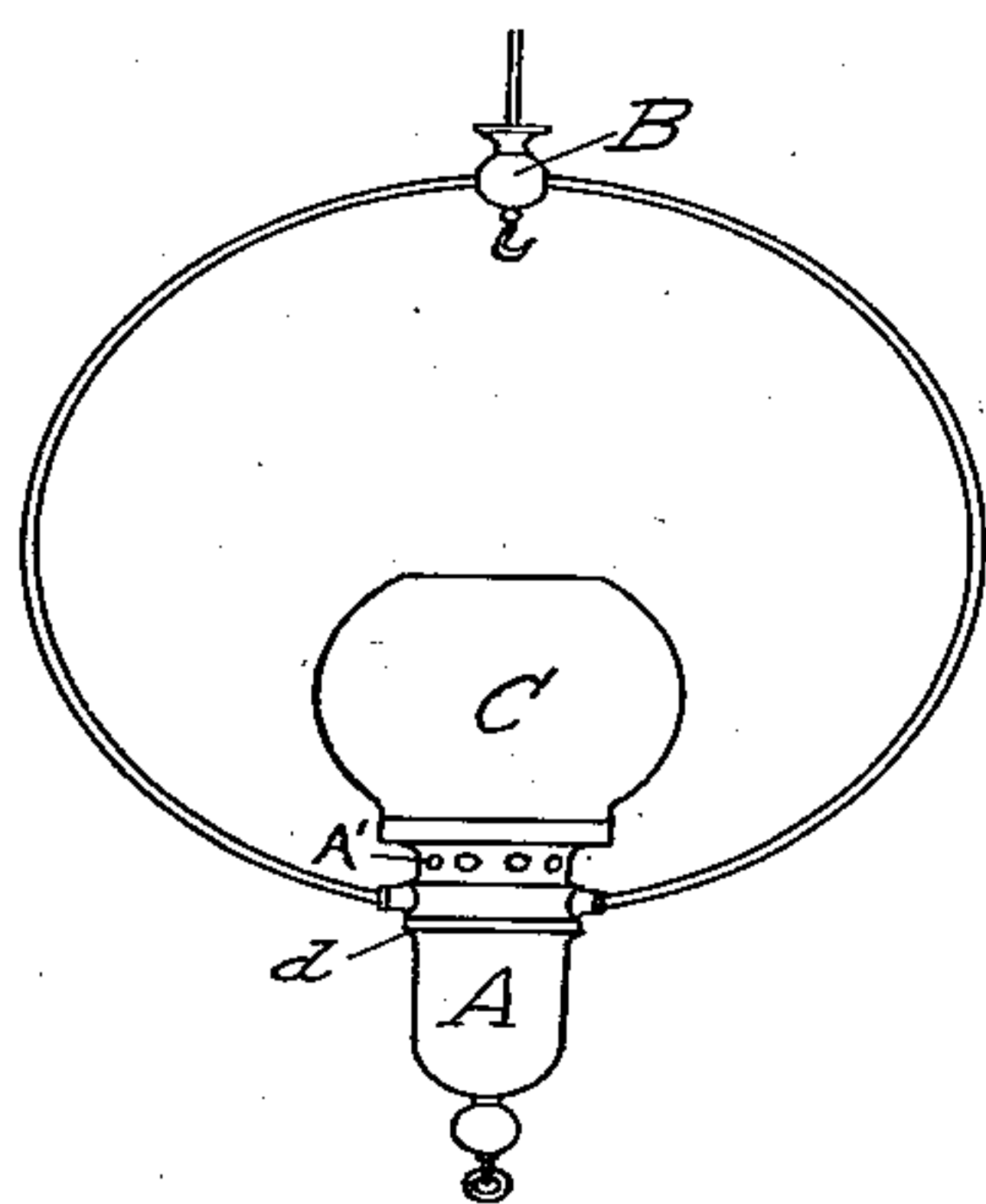


Fig 1

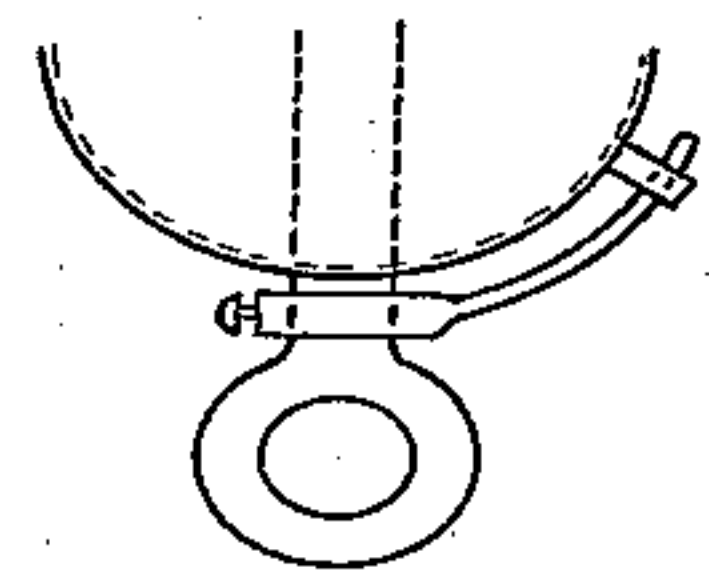


Fig 5

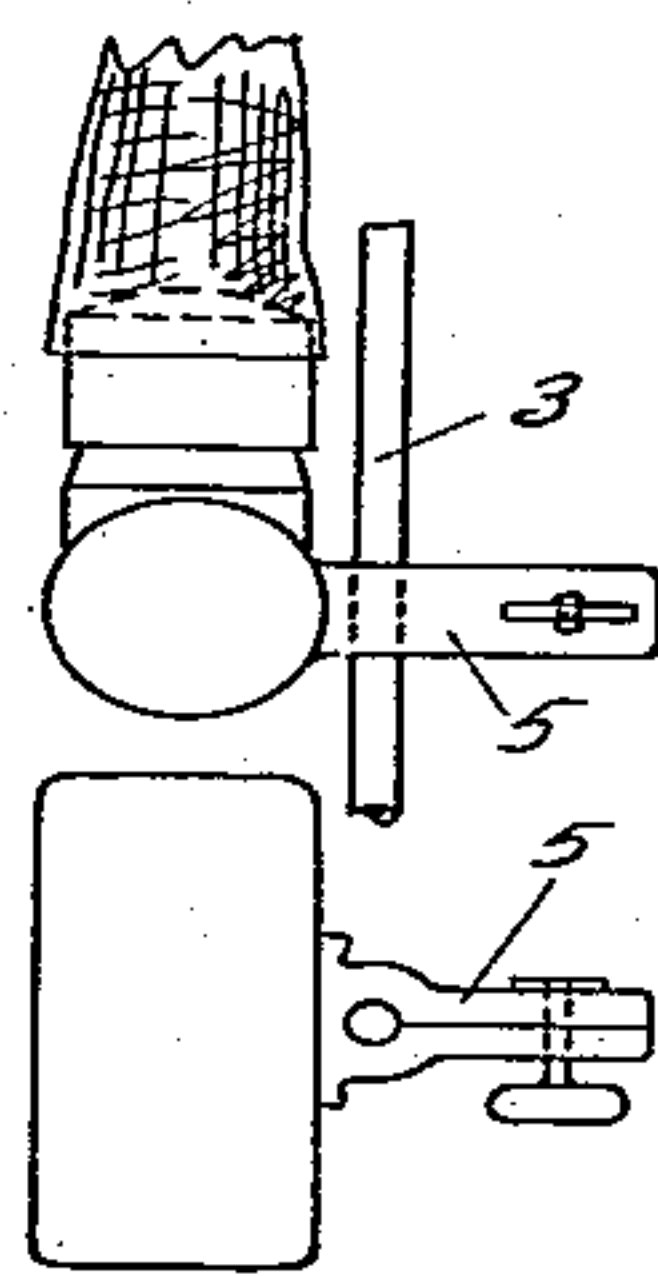


Fig 6

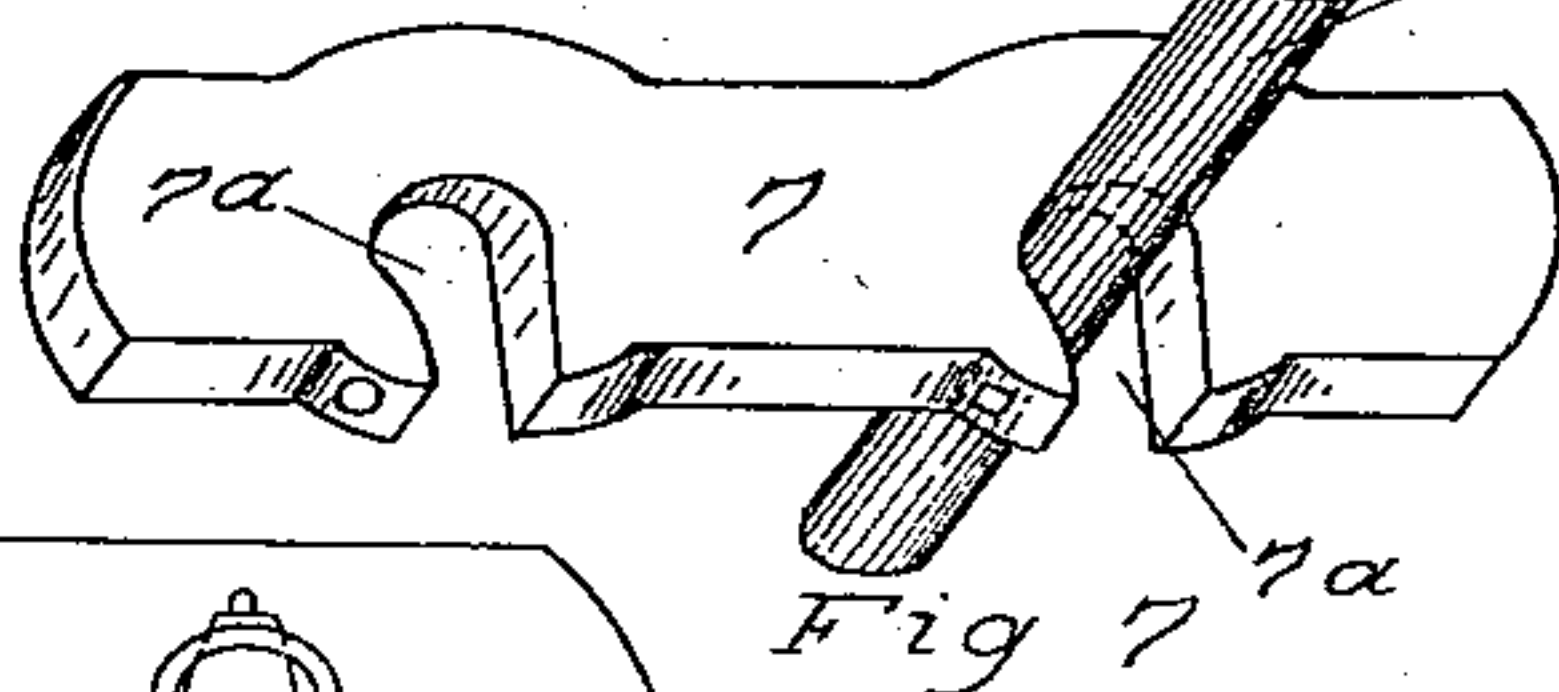


Fig 7

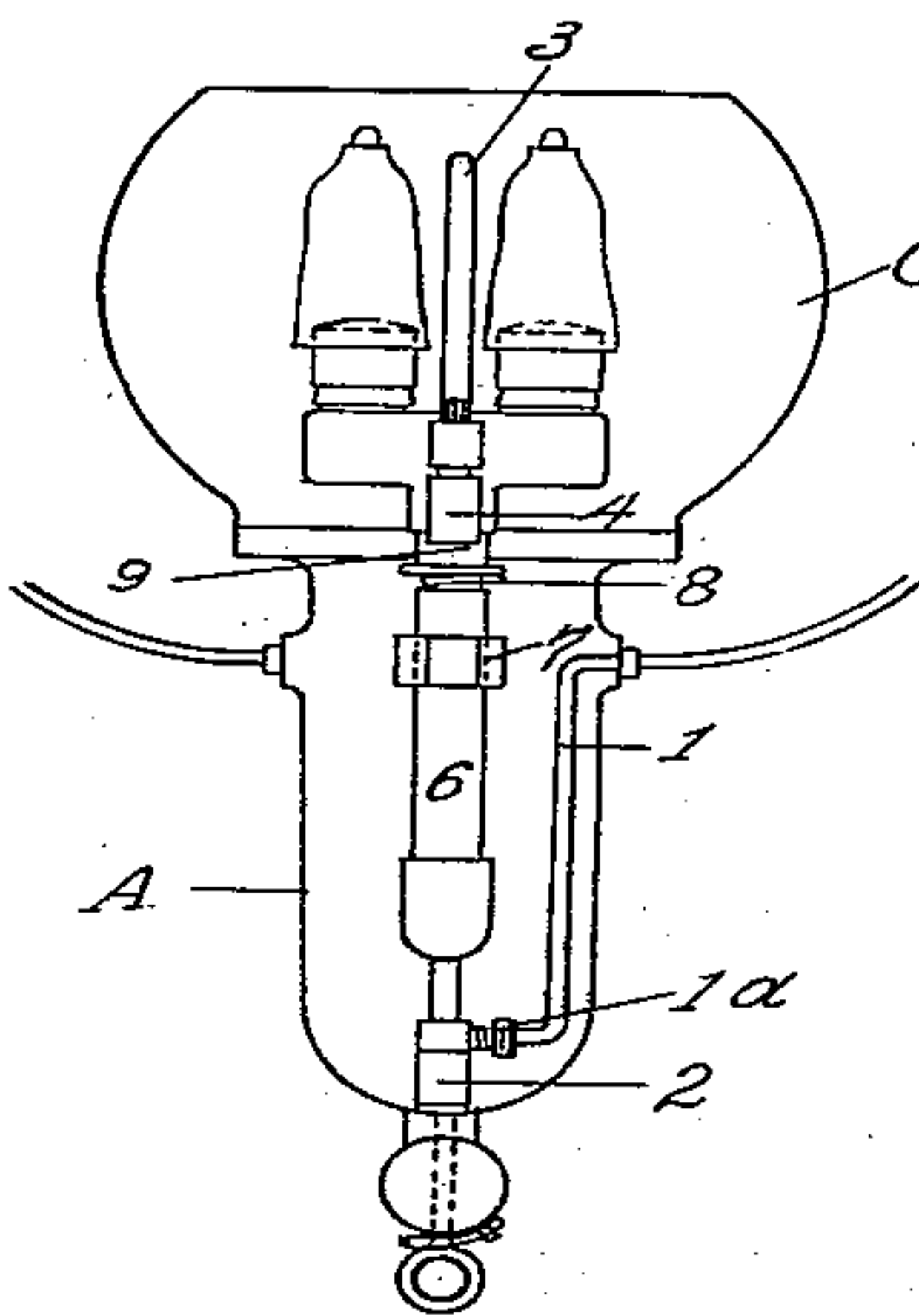


Fig 2

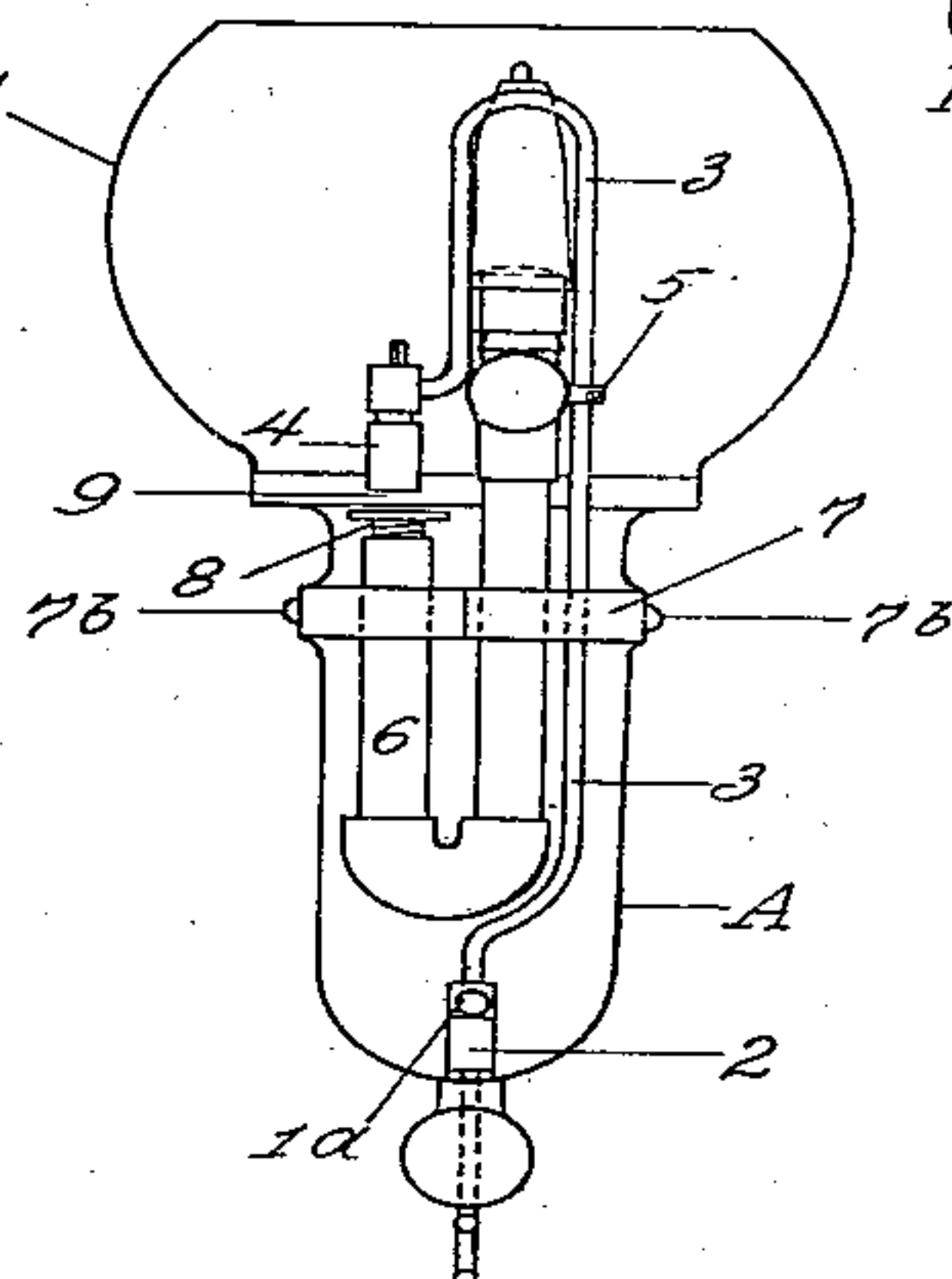


Fig 3

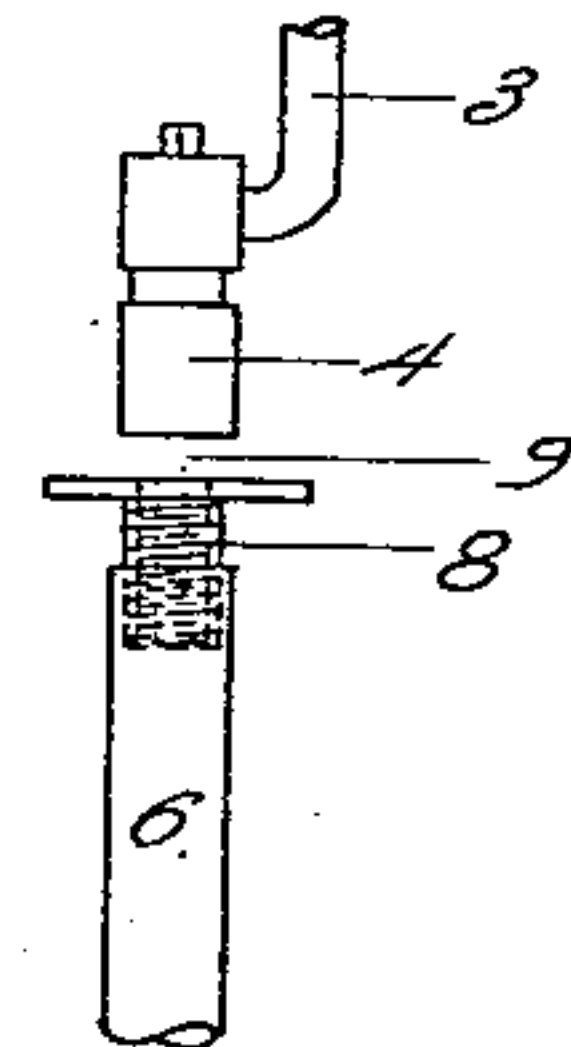


Fig 4

Witnesses
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Adrian L. Loeffler.

Inventor.
Robert L. Doran
By his Attorney. Geo B Willcox

UNITED STATES PATENT OFFICE.

ROBERT L. DORAN, OF NASHVILLE, TENNESSEE.

INCANDESCENT VAPOR-LAMP.

SPECIFICATION forming part of Letters Patent No. 616,829, dated December 27, 1898.

Application filed April 28, 1898. Serial No. 679,055. (No model.)

To all whom it may concern:

Be it known that I, ROBERT L. DORAN, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Incandescent Vapor-Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to incandescent vapor-lamps; and it consists in features of construction and novel combinations of parts in such lamps, as hereinafter described and claimed.

Figure 1 is a front view of the lamp as it appears complete. Fig. 2 is a front view of the interior arrangement of my lamp, the case and globe being shown in section. Fig. 3 is a side view of the same. Fig. 4 is an enlarged detail of the atomizing-valve and the end of the mixing-tube with the air-regulator attached. Fig. 5 is a detail of the stop attached to the shut-off valve. Fig. 6 is a detail showing the clamp for adjusting the height of the generator. Fig. 7 is a detail of the tube-supporting device.

The construction and general arrangement of my improved lamp are clearly shown in Figs. 2 and 3 of the drawings.

A body portion A, containing the shut-off valve and the air-mixing tube and supporting the lamp-globe C and the burners, is suspended by curved tubes from a ceiling-piece B or other suitable device. The oil-supply pipe passes down through the ceiling-piece B and the curved tubes which form the lamp-support and enters the body portion A, which is preferably cylindrical in form, the lower part being detachable and provided with a hemispherical bottom. The lower part of the casing A can be removed after unscrewing and removing the stem of the valve 2 by rotating the casing A sufficiently to release the bayonet-notch at *d* and drawing the body A downward.

The feed-pipe 1 is connected by a union or similar device 1^a to a cut-off valve 2, the stem of which passes down through the body portion A, so as to be operated from without.

The generating-pipe 3, which, together with the cut-off valve 2 and the atomizing-valve 4,

forms a single removable element of the lamp, extends up parallel and adjacent to the burners, and, curving over near the top of the burners, extends down parallel with them, terminating in the atomizing-valve 4.

For adjusting the height of the generator and the atomizing-valve a clamp 5, adapted to hold the pipe 3 securely in position, is fixed to the burner-body. The air-mixing chamber 6 extends downward from the atomizing-valve into the body A of the lamp and thence curves upwardly to the burners.

The entire light-producing mechanism of the lamp may be supported by a single piece, as a casting 7, extending across the body A and secured thereto by screws or otherwise.

The air-mixing tubes are secured to the piece 7 by lateral recesses 7^a therein, the edges of these recesses being provided with set-screws or other suitable means for clamping the tubes. At the receiving end of the air-mixing tube is provided a device for controlling the admission of air to the tube. This air-regulator is constructed and operated in the following manner: The atomizing-valve 4, Fig. 4, has an approximately flat or blunt lower end, and the end of the air-mixing tube is internally threaded to receive a screw-cap 8. The cap 8 is provided centrally with a hole for passage of vapor from the atomizing-valve. It is evident that after approximately adjusting the height of the valve 4 above the tube 6 by means of the clamp 5 above mentioned a further adjustment of the air-supply, which is controlled by the space or opening 9 between the valve 4 and cap 8, may be secured by turning the screw-cap 8, thus varying the opening for passage of air to the mixing-tube. This improved regulator is an essential feature of my invention.

When it is desired to remove the valves and generator for cleaning or other purpose, it is only necessary to remove the lower part of the lamp-body A, which is preferably secured to the upper part at *d*, Fig. 1, by a bayonet-notch and pin or other suitable means and to loosen the union 1^a and clamp 5. The generator may then be taken out without disturbing other portions of the lamp.

The mixing-tube and burner supports may be readily removed from the lamp by removing the screws 7^b, which secure the support-

ing-piece 7 to the lamp-body at a point above the connection *d*, thus allowing the tube and burners to be drawn down through the upper part of the lamp-body A.

5 When the light is not in use, the supply of oil may be shut off by closing the valve 2; but it is frequently desirable to admit sufficient oil through valve 2 to keep the burners heated, thus continuously generating oil-vapor in the
10 tube 3, so that the lamp will light automatically when the valve 2 is opened. I accomplish this purpose by attaching the stop shown in Fig. 5 to the stem of the shut-off valve. A stop-pin is provided on the part of the lamp-
15 body through which the valve-stem passes, and a pointer, adapted to be adjustably clamped to the stem, is arranged to turn with it in such manner that the pointer will strike the stop-pin and prevent further turning of the
20 stem when the valve is sufficiently closed.

By the means herein described I am enabled to produce a continuously-generating lamp that is practically self-lighting, is easily taken apart for renewal or cleaning, simple
25 in construction, and inexpensive to manufacture.

What I claim as my invention is—

1. In an incandescent vapor-lamp the com-

bination with the lamp-body of a removable generator-pipe having an atomizing-valve 30 and a shut-off valve attached thereto; a removable mixing-tube having a burner integral therewith and adapted to support said generator-pipe; and means substantially as described for regulating the air-supply by 35 varying the distance between the atomizing-valve and the opening of the mixing-tube.

2. An incandescent vapor-burning lamp combining a removable generator-pipe having an atomizing-valve and a shut-off valve 40 attached thereto and forming an integral part therewith; a removable mixing-tube supported by the body of the lamp, said mixing-tube being provided with means for adjustably clamping the generating-tube and for regulat- 45 ing the distance between the opening of said mixing-tube and the atomizing-valve, together with a stop for regulating the closure of the shut-off valve, substantially as and for the purpose described. 50

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT L. DORAN.

Witnesses:

GEO. B. WILLCOX,
T. E. WEBSTER.