

No. 754,428.

PATENTED MAR. 15, 1904.

J. L. CREVELING.  
LAMP.

APPLICATION FILED MAR. 22, 1901.

NO MODEL.

2 SHEETS—SHEET 1.

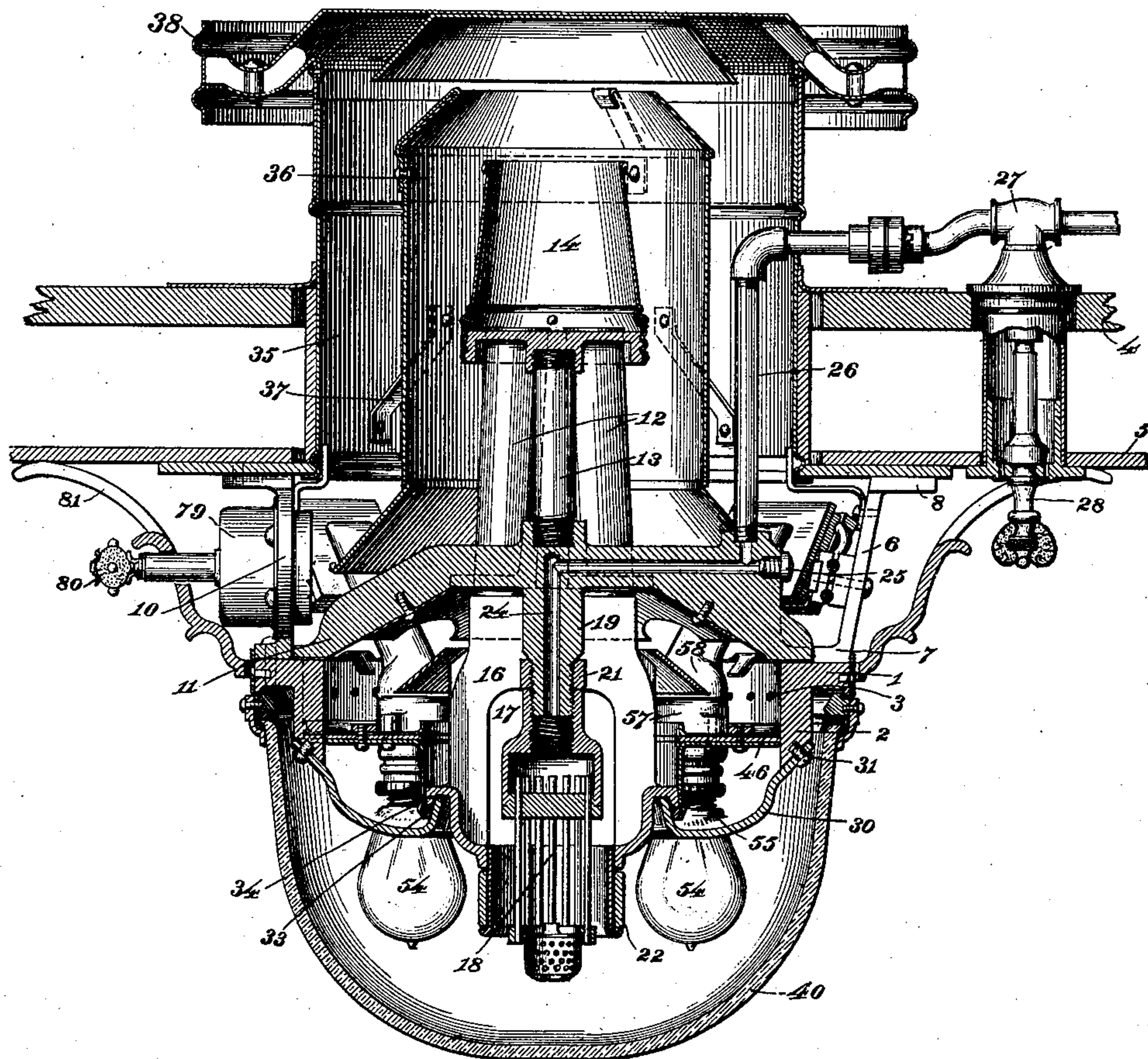


Fig. I.

WITNESSES:

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INVENTOR:

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BY

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2 SHEETS—SHEET 2.

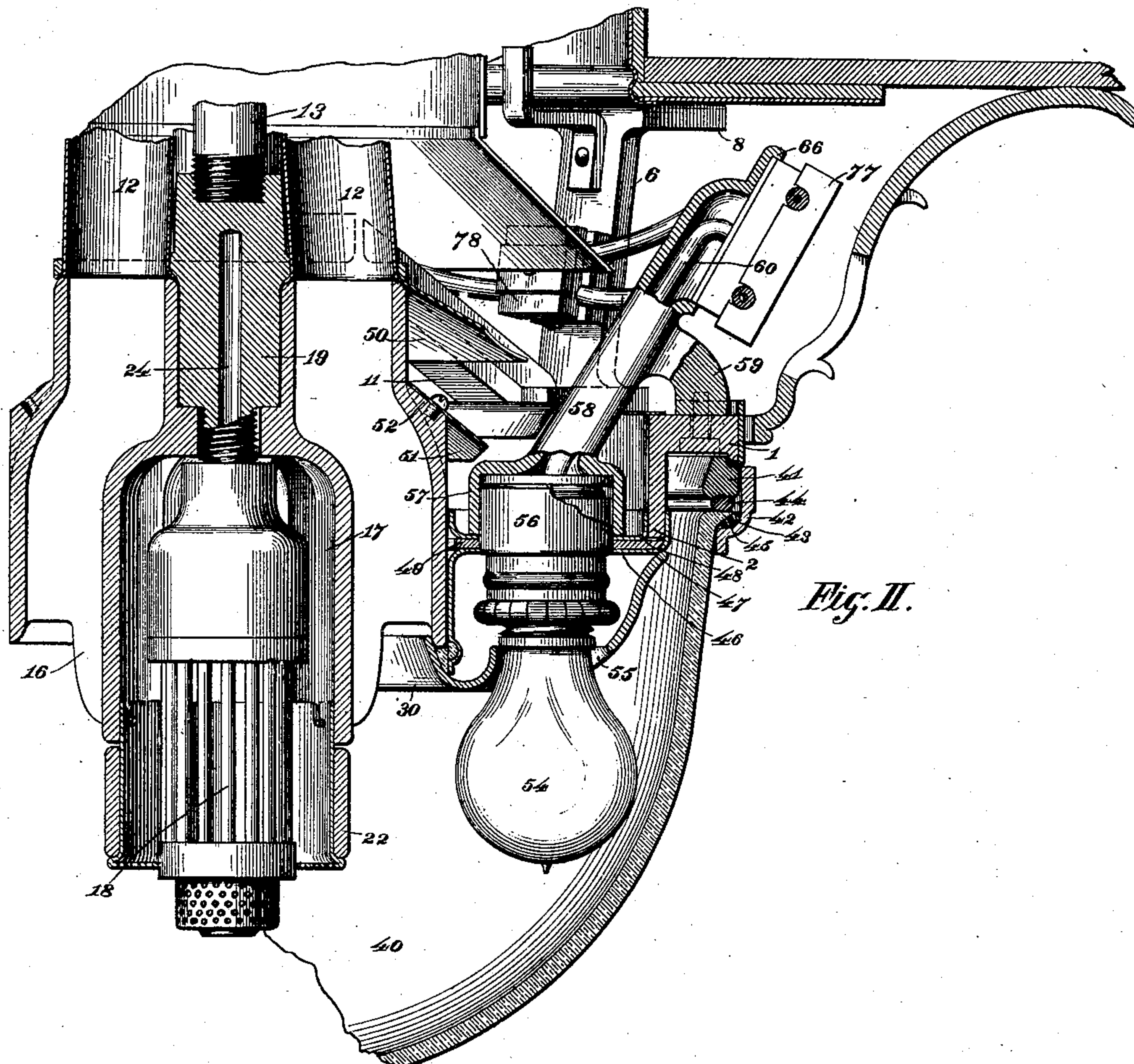


Fig. II.

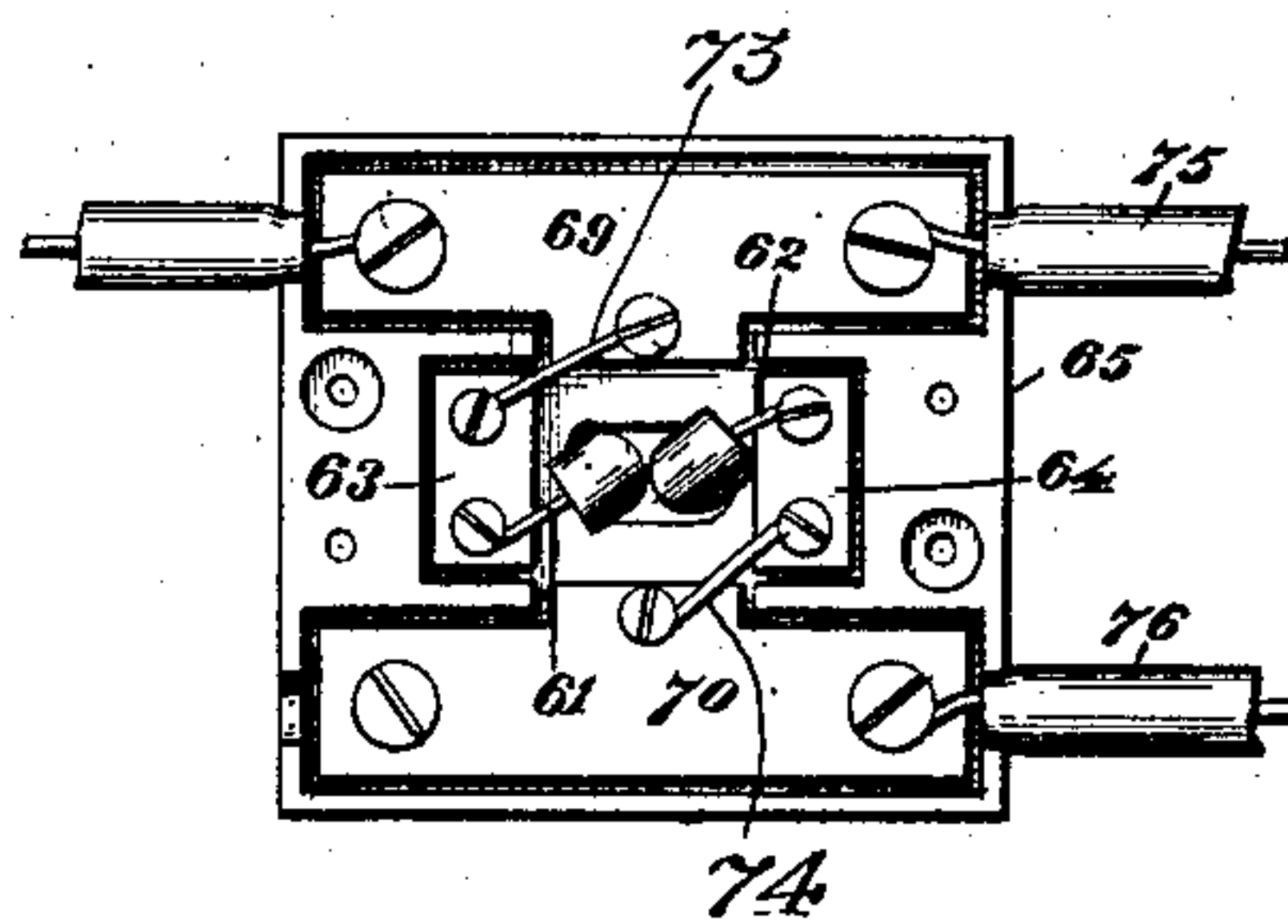


Fig. III.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN L. CREVELING, OF NEW YORK, N. Y., ASSIGNOR TO SAFETY CAR HEATING & LIGHTING COMPANY, A CORPORATION OF NEW JERSEY.

## LAMP.

SPECIFICATION forming part of Letters Patent No. 754,428, dated March 15, 1904.

Application filed March 22, 1901. Serial No. 52,374. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN L. CREVELING, of New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Lamps, of which the following is a complete specification, reference being had to the accompanying drawings.

The object of my invention is to produce a complete lamp adapted to accommodate lights of different kinds—for example, incandescent electric bulbs and gas-burners—adapted to be used independently, in which provision is made for the operation of each without interfering with the efficiency of operation of the other.

My invention is especially adapted for use in railway-cars, in which two means of generating light are available and by the aid whereof either may be used as occasion may require or render convenient. With respect to its availability as a gas-burner I prefer to make my lamp of the inverted-burner type and to provide in a lamp of that description means for preserving the efficiency of the burner in operation and at the same time without injuriously heating the electrical connections by which electrical energy is supplied to the electric bulbs with which the lamp is provided.

In the accompanying drawings, Figure I is a central vertical section of a preferred form of embodiment of my invention installed as in use. Fig. II is a section of a portion of the subject-matter of Fig. I, on an enlarged scale and taken in a different plane from Fig. I the better to illustrate the relations of the parts. Fig. III is an elevation of one of the fuse-blocks, constituting a preferred form of a portion of the means of electrical distribution employed in my lamp.

Referring to the numerals on the drawings, 1 indicates the body-ring of my lamp provided with a dependent annular flange 2, that is perforated by a series of air-inlet apertures 3.

4 and 5 indicate members of a car or other structure from which in use my lamp may be suspended.

The ring 1 is sustained in fixed relations to the member 5 or equivalent structure, as by a

series of brackets 6, having terminal flanges 7 and 8, screwed or otherwise secured to the member 5 and to the ring 1. As many brackets 6 may be employed as are necessary to rigidly support the ring 1 and the place of one of the brackets in the series may be supplied by a switch-frame 10. Supported as described the ring 1 constitutes the main frame-piece of the lamp. It is surmounted by a spider 11 or casting of open-work structure, which, being screwed or otherwise secured to the ring 1, sustains a cluster of flues 12 and, as upon a post 13, a chimney extension 14.

Communicating with the flues 12 is a center casting 16, which is a casting provided with a plurality of flue-openings that register with the flues 12, respectively, and serve to convey away the heated products of combustion. It is provided with a central chamber 17 for the accommodation of a burner 18, which may be of the well-known type illustrated or of any ordinary or improved construction. The center casting is preferably secured to a stem 19, pendent from the spider 11, and may be secured in place as by a ring 21, threaded to the threaded extremity of the stem above the burner 18, which is threaded to the lower extremity of the stem.

22 indicates a reflector suspended from the lower end of the center casting and surrounding the burner in the manner familiar in this type of burner.

24 indicates a gasway cored out or otherwise formed in the body of the spider 11 and its stem 19. That portion of it formed in the spider 11 may be conveniently bored out and the end closed, as by a screw-block 25. The gasway 24 communicates, as through a pipe 26, with a source of gas-supply, (not illustrated,) the pipe 26 being preferably provided with a suitable cock 27, having its stem 28 arranged to project below the member 5 for convenience of manipulation.

30 indicates a reflector secured, as by screws 31, to the beveled face of the pendent flange 2 of the ring 1. The reflector is annular in shape and forms a close joint, as indicated at 33, with an annular flange 34, skirting the lower end of the center casting 16.



35 indicates the canopy which surrounds the chimneys and flues of the lamp and which supports within it a main flue 36, as upon bracket-arms 37, or otherwise secured to the two parts 5 specified.

38 indicates a ventilator surmounting the canopy 35.

Pendent from the ring 1 is a glass bowl 40, which is preferably united to a bezel, preferably consisting of an inner ring 41 and an outer ring 42, each securing the flanged edge 43 of the bowl, as between yielding gaskets 44 and 45. The bezel is preferably secured to the ring 1, as by the ordinary hinge and 15 spring-catch located upon opposite sides of the ring 1. The hinge and catch being of familiar construction are not illustrated.

The foregoing description sets forth an inverted-burner gas-lamp of the same general 20 type as that shown and described in United States Letters Patent No. 654,343, issued July 24, 1900, to Robert Munn Dixon; but with the addition of certain structural changes to adapt it to the purposes of my present invention.

25 In order to render the same lamp available for both electric and gas lighting purposes, I provide a separate compartment to accommodate the electric-lamp system and provide means for keeping the compartment in which 30 the wires and electrical connections are situated cool or protected from injurious heat. For that purpose I provide a diaphragm 46, which, being composed, preferably, of annular plates 47 and 48, supported between the 35 flange 2 and the reflector 30, accommodate between them an annular plate 49 of suitable non-conductive material—for example, asbestos—and afford an effective partition against radiation of the heat from the interior of the 40 bowl 40.

50 indicates a spider diaphragm-plate secured to the bottom of the spider, and 51 a center-casting diaphragm or plate secured to an inclined wall 52 on the center casting. 45 The diaphragms 50 and 51 are preferably located in substantially parallel planes and are provided for the regulation of air-currents above the diaphragm 46.

Ranged around the burner 18 and at requisite distances therefrom to escape excessive 50 heat generated thereby I provide a series of electric-light bulbs 54, each of which, passing through an aperture 55 provided for it in the reflector 30, is accommodated with a socket 55 56, which, passing through an aperture provided for it in the diaphragm 46, is contained within a socket-piece 57, formed upon one end of a fuse-block bracket 58, secured, as by a foot 59, to the ring 1. The bracket 58 is 60 tubular to accommodate the lamp-wires carried, as in an asbestos-braided tube 60. The accommodation within the socket-piece 57 for the socket 56 and the connections for establishing electrical communication between the 65 wires in the tube 60 and the filament being

of any usual or preferred kind are not illustrated in detail. In Fig. III of the drawings I illustrate the connection of those wires indicated by 61 and 62 with insulated plates 63 and 64, respectively, secured to the fuse- 70 block 65 upon the head 66 of the bracket 58.

69 and 70 indicate conductive plates, which are united with the plates 63 and 64, respectively, as by fusible connections 73 and 74.

75 and 76 indicate mains, of which the plates 75 69 and 70, respectively, constitute intermediate sections and with which the filaments of the bulbs 54 are respectively connected in multiple.

77 indicates caps on the fuse-blocks, respectively. 80

It will be observed that the fuse-blocks, with their wires, are supported at a comparatively remote distance from the portions of the lamp which become heated in use and 85 that all the wire connections are provided with additional protection of non-conductive covering.

The mains 75 and 76 are carried around the lamp, as in supporting-blocks 78 upon the 90 brackets 6, respectively, and they make circuit through a switch 79, carried upon the switch-frame 10. The switch being of any ordinary construction does not require description in detail. It is provided with a key 95 80, which, projecting through an aperture provided for it in a cornice-ring 81, affords means for controlling the current through the mains to the lamp-bulbs.

In operation if the lamp be lighted by electricity alone all that is necessary for its control 100 is the manipulation of the key 80 of the switch 79. If, on the other hand, the gas-burner be used, the flow of gas is admitted by manipulation of the stem 28 and upon opening the 105 bowl 40 is ignited in the usual manner at the points whence it issues from the burner 18. Combustion is supported within the bowl when closed by air supplied to the interior thereof through the apertures 3 and the center casting, 110 the heated products of combustion passing out through the center casting 16, its flues 12, and chimney 14. Air is continually supplied on all sides through the open-work of the cornice 81 and keeps the compartment 115 above the part 46 comparatively cool and for all practical purposes entirely so in proximity to the fuse-block 65. It should be observed that the heat of initial combustion is within the bowl 40 and that between the interior 120 thereof and the fuse-blocks three partitions intervene—namely, the reflector 30, the contiguous diaphragms 50 and 51, and the principal partition or double diaphragm 46.

I do not desire to limit myself to the details 125 of construction herein described, but reserve the right to modify and vary the same within the scope of the principle of my invention.

What I claim is—

1. In a lamp structure a gas-burner, its frame 130



and an electric-bulb support secured to the frame and having its end opposite to that which carries the bulb extending away from the area of heat radiation from the burner.

2. In a lamp structure a gas-burner, means for supporting an electric-light bulb and its electrical connections within the lamp, and means for directing the air-currents to the burner about the electrical connections for keeping them cool.

3. In a lamp structure a burner, centrally-located means of carrying off the products of combustion from the burner, a bowl underneath the burner, means for sustaining an electric bulb within the bowl, electrical connections, and a partition between the bowl and electrical connections of the bulb.

4. In a lamp structure a burner, centrally-located means of carrying off the products of combustion from the burner, a bowl underneath the burner, means for sustaining an electric-light bulb within the bowl, electrical connections, and a plurality of separate partitions between the bowl and the electrical connections of the bulbs.

5. In a lamp structure a body-ring, a burner, means of carrying off the products of combustion from the burner supported by the ring, a fuse-block bracket provided within the bowl with an electric bulb, a fuse-block external to the bowl, and a partition between the bulb and the fuse-block.

6. In a lamp structure a body-ring, a spider, a center casting, a burner, a reflector, means of air-supply through the body-ring and center casting to the burner, a fuse-block bracket carried upon the body-ring and provided at one end with an electric bulb extending through the reflector and upon the side of the reflector opposite the bulb a fuse-block.

7. In a lamp structure a body-ring, a spider, a center casting, a burner, a reflector, means of

air-supply through the body-ring and center casting to the burner, a fuse-block bracket carried upon the body-ring and provided at one end with an electric bulb extending through the reflector, and upon the side of the reflector opposite the bulb a fuse-block, and a partition between the reflector and the fuse-block.

8. In a lamp structure a body-ring and its bracket-supports, a spider, a center casting, a burner, a bowl, means of air-supply through the body-ring and center casting to the burner, a partition surrounding the burner, a plurality of fuse-block brackets carried upon the body-ring and provided at one end, respectively, with bulbs extending through the partition, fuse-blocks on the outside of the partition, line-wires supported upon the bracket-supports of the body-ring and passing through the fuse-blocks, and an electric switch connected with the mains.

9. In a lamp structure a frame, a burner, a bowl, means of air-supply to the burner, electric-light bulbs and their connections, a partition between the bulbs and their connections, means of gas-supply to the burner, mains in electrical connection with the bulbs, a gas-cock, and an electric switch, all contained within the lamp.

10. In a lamp structure a burner, centrally-located means of carrying off the products of combustion from the burner, bowl underneath the burner, a partition within the bowl, a lamp-socket within the partition adapted to receive an electric-light bulb and forming a part of the partition, and electrical connections with said socket.

In testimony of all which I have hereunto subscribed my name.

JOHN L. CREVELING.

Witnesses:

C. A. McCUNE,  
F. E. KESSINGER.