

No. 652,237.

Patented June 19, 1900.

E. SEITZ.
INCANDESCENT VAPOR BURNER.

(Application filed Jan. 6, 1900.)

(No Model.)

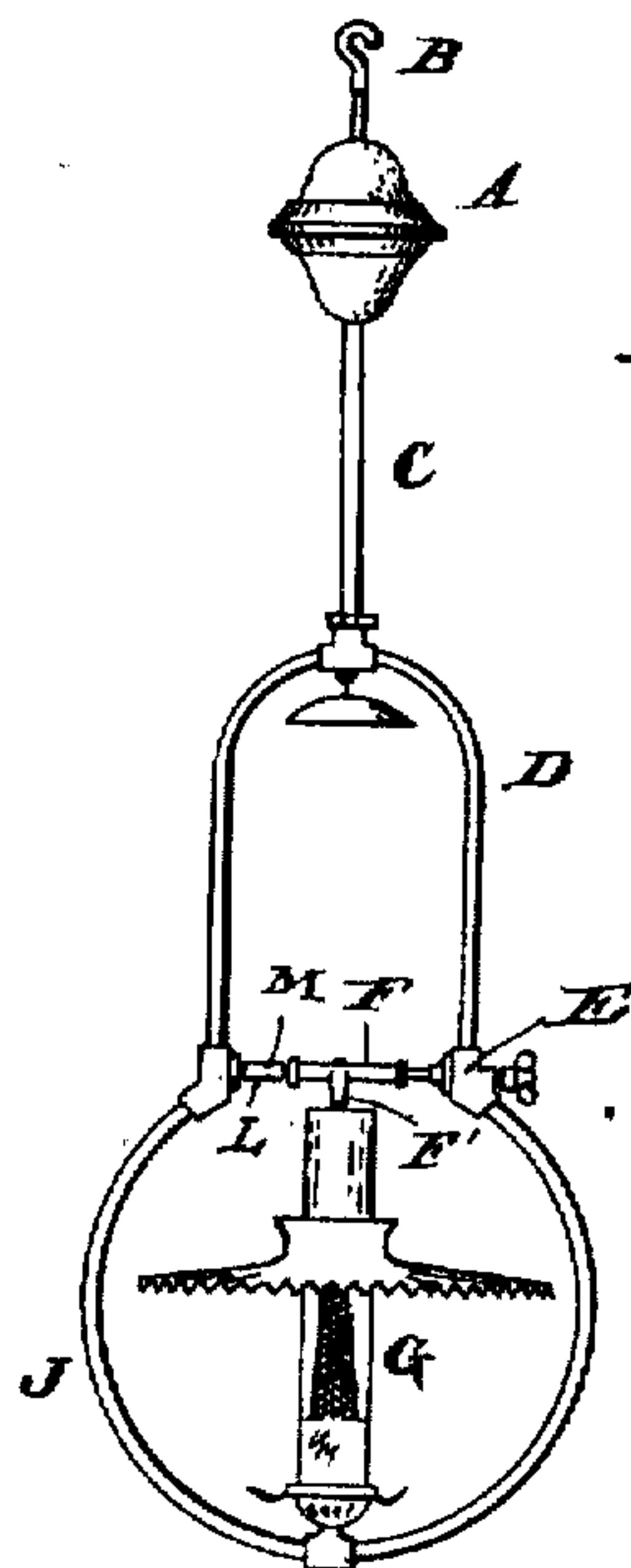


Fig. 1.

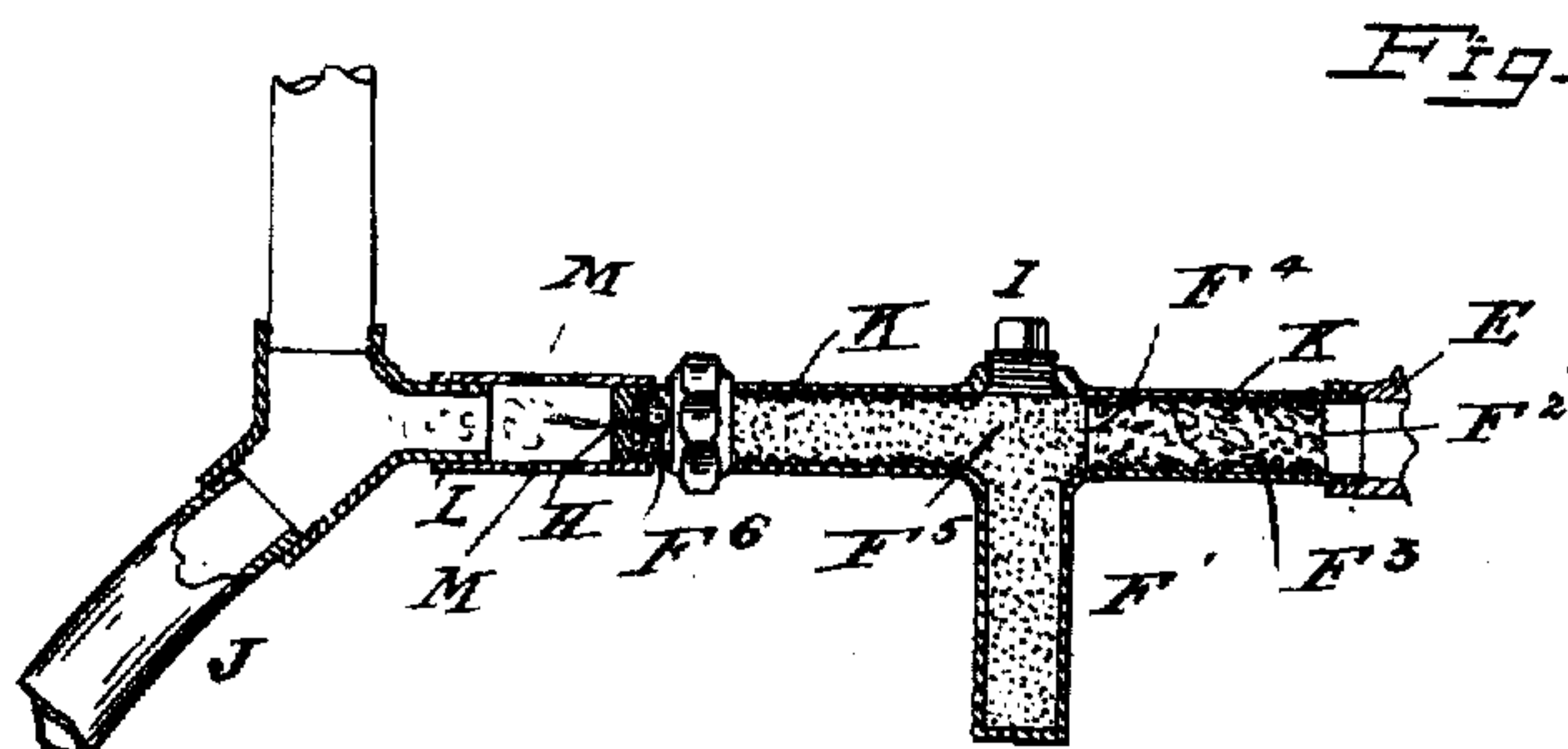


Fig. 2.

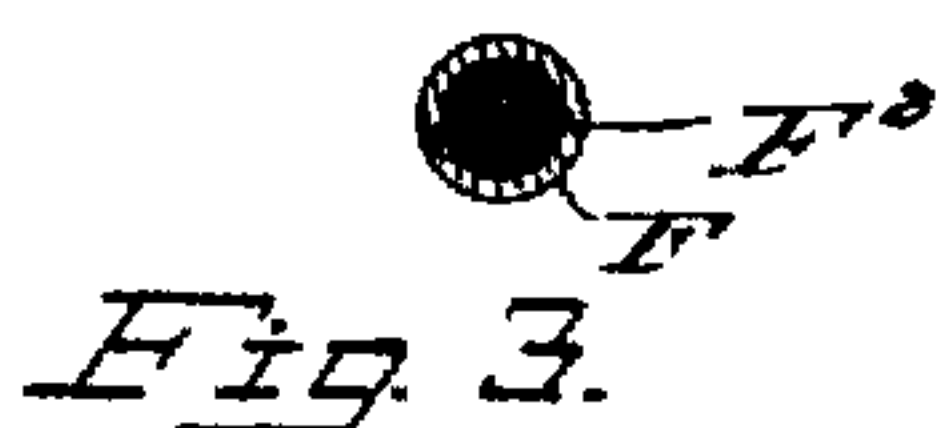


Fig. 3.



Fig. 4.

WITNESSES -

Harry Duke
W. Blum

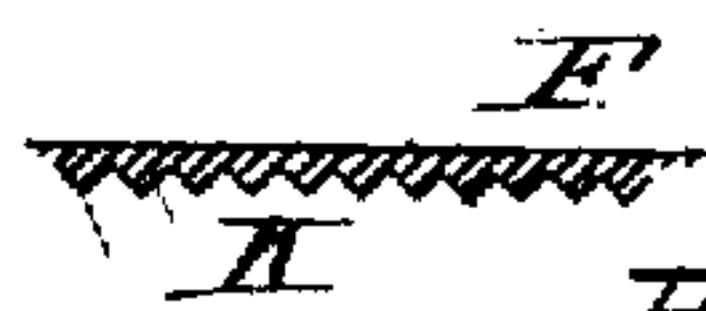


Fig. 5.

INVENTOR
Edward Seitz

By *L. M. Thurlow*
att'y.

UNITED STATES PATENT OFFICE.

EDWARD SEITZ, OF PEORIA, ILLINOIS.

INCANDESCENT VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 652,237, dated June 19, 1900.

Application filed January 6, 1900. Serial No. 693. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SEITZ, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Vapor-Lamps; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it ap-

10 pertains to make and use the same. This invention relates to vapor-lamps for illuminating purposes.

One object of the invention is to provide a lamp for burning vaporized gasoline in which means is employed for preventing air-currents from affecting steady burning thereof.

The further object of the invention is to provide means for conducting heat from the heated generator to the tube which conveys the vapor to the burner, whereby the said vapor is kept heated during its passage through said tube or conduit. A space is left between the generator and the said pipe to permit the vapor to mix with sufficient air to give the gas proper burning qualities. Air-currents, however, affect the passage of the vapor from the generator to the burner through said space and cause the light to waver, thus giving an unsteady and unsatisfactory light. Further-

30 more, the pipe leading to the burner, through which the gas is forced, is usually cool, and the vapor in passing through it is cooled and gives an inferior light. It is my purpose in view of these disadvantages to furnish means for keeping a steady and unaltered flow of vapor, thereby maintaining an even light and keeping the gas heated to obtain a white light.

In the drawings herewith, Figure 1 is an elevation of the lamp. Fig. 2 is a longitudinal cross-section of the generator and a connecting-pipe which conveys the gas to the burner. Fig. 3 is a cross-section of the generator-tube, showing a piece of gauze therein. Fig. 4 is a plan view of a tube or sleeve for preventing air-currents from affecting the light. Fig. 5 is a section of a portion of the wall of the generator-tube.

In the various figures, A is a supply-tank hung from a hook B. A pipe C is attached to the said reservoir and conveys the gasoline down to the tube D, and thence through a valve E to the generator F, where it is heated

by the burner G. A cross-section of the generator is shown in Fig. 2 and comprises a horizontal tube and a depending portion F'. 55

At F² is a partition of gauze.

F³ indicates a filling of asbestos or other filtering material, and F⁴ is a gauze partition for holding the asbestos in position. Behind the latter partition is a filling of brass or iron filings at F⁵, which fills the depending portion F' and one of the horizontal limbs of the generator, the other limb being filled by the asbestos. A partition F⁶, near the aperture H in the end of the generator, prevents the filings entering said aperture. A plug I is placed in the top of the tube in line with the depending portion F', which permits the latter to be reached for cleaning purposes.

The operation of the lamp, though well understood by those acquainted with such devices, will be described. The gasoline is permitted to flow through the valve to the generator. The latter is heated by burning a small quantity of alcohol or other inflammable fluid beneath it until the gasoline in such generator is vaporized sufficiently to issue through said aperture H. From the aperture the vapor passes through the limb J to the burner, where it is ignited. The heat from the burner vaporizes the gasoline admitted to the generator, and thus a constant supply of the gas is maintained. The depending limb F' provides a large heating bulk by means of the filings contained therein and through which the gasoline flows. It is evident that the filings furnish a large amount of heat, and the vapor is quickly formed thereby. The inner walls of the generator are provided with projections K, Figs. 2 and 5, which are created by cutting screw-threads therein when such generator is made. This increases the heating-surface and aids considerably in the formation of the gas. The space between the extremity of the generator, having the aperture H, and the tube J is filled by a tube or sleeve L, which fits snugly over the end of the said generator and the hollow stud on an elbow of said pipe J. Two openings M are provided in the sleeve, through which the air may enter to mix with the gas. I do not limit myself, however, to two openings but I may use one or more of them. In use the sleeve is arranged in such a manner as to place

the openings at the top and bottom. By this arrangement strong drafts or air-currents cannot reach the vapor except through the holes, which are of small size, so that the air will not enter except by the suction caused by the flow of vapor. A steady light is thus kept at all times. A further and important advantage of the said sleeve is the transmission of heat through its walls from the generator to the tube J. The latter is thus kept heated, and the vapor passing therethrough is kept hot, and consequently burns with a much better and whiter light.

The construction of the generator and sleeve and the other portions of the lamp may be altered without sacrificing the spirit of my invention, and I may not use the depending limb F' of the generator. The portions which I value and wish to claim as my own are the peculiar shape of the generator with its filling, the sleeve for preventing variations of the light, and the heating of the tube J from the generator to improve the quality of the gas.

In Fig. 3 I illustrate the cross-section of the generator-tube, showing the gauze partition therein, to which, however, I lay no claim.

In Fig. 4 I show a plan view of the sleeve F to better illustrate the openings therein.

I wish to emphasize the advantage of increasing the heating area of the inner walls of the generator by providing the projections K, which, though I have described them as screw-threads, may be formed in any manner and of any shape to accomplish the desired end. A matter of great importance also and one I value very highly is the connecting-sleeve L between the gas-tube J and the generator, whereby the former is heated by the conducting properties of the metal. It is well known that by heating gas just before it is burned a better quality of gas results and a whiter light is obtained. Besides this advantage the closed tube prevents the gas being cooled and the interference of the vapor-jet by drafts. The limb F' may be provided with inner projections, as well as the generator-tube proper, if desired. The metallic fillings for these portions are described as "filings;" but borings would be preferable, perhaps, and they are somewhat large and leave

larger spaces for the passage of the fluid. These points, however, are not important.

In Fig. 4 the sleeve L is split at one side, whereby a tight driving fit may be had on both the generator and the connection of the pipe J. This will assure perfect contact for conducting heat and will make the process of manufacture easier and cheaper than to make the stiff tube, which will have to be reamed out to fit the parts.

Having described my invention, I claim—

1. The combination of the reservoir A, supply-pipes C and D, valve E, generator F, conduit J, split sleeve L between the said generator and conduit and having the apertures M above and below, and the burner G arranged and constructed as set forth.

2. In a gas-lamp the combination of the reservoir A, supply-pipes C and D, the valve E, the generator F connected with such valve, the gas-conduit J having the open projecting inlet opposite the said generator, a minute aperture in the adjacent end of the generator, the split sleeve L having apertures M above and below, said sleeve adapted to fit tightly on both the generator and the projection of the conduit J for the purposes set forth.

3. The combination of a reservoir, a conducting-tube therefrom, a valve for regulating the supply of gasoline from said reservoir, a generator comprising a tube, projections therein for increasing the heating area, a depending hollow limb on the generator, a filling of metallic particles for the purposes set forth, an aperture in the end of the generator for the ejection of vapor, a gas-conductor separated from the said generator for carrying the gas to the burner, a tube, or sleeve connecting the generator with the said conducting-tube for conducting heat from the former to the latter whereby the said tube is heated for the purposes set forth, and a series of openings in the sleeve for admitting air to the vapor, all substantially as set forth and described.

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

EDWARD SEITZ.

Witnesses:

ARTHUR KEITHLEY,
HARRY E. DUKE.