

No. 728,509.

PATENTED MAY 19, 1903.

A. J. SIMPSON, JR.

VAPOR LAMP.

APPLICATION FILED JUNE 18, 1902.

NO MODEL.

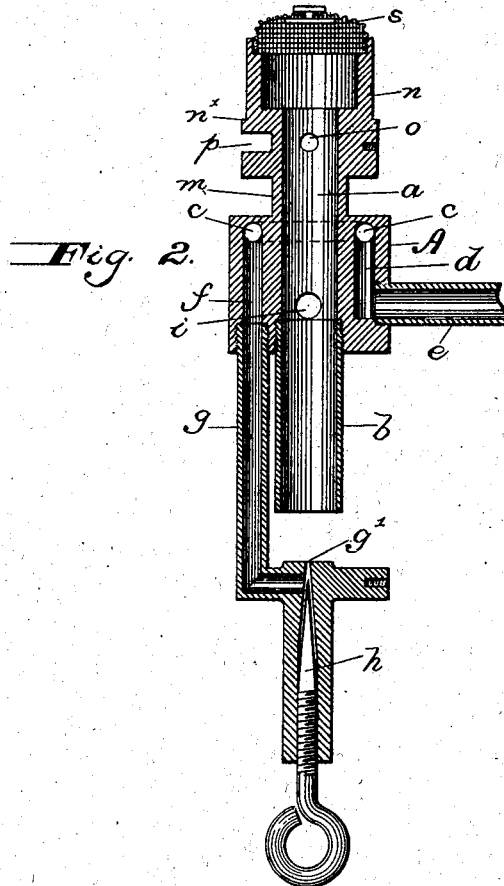
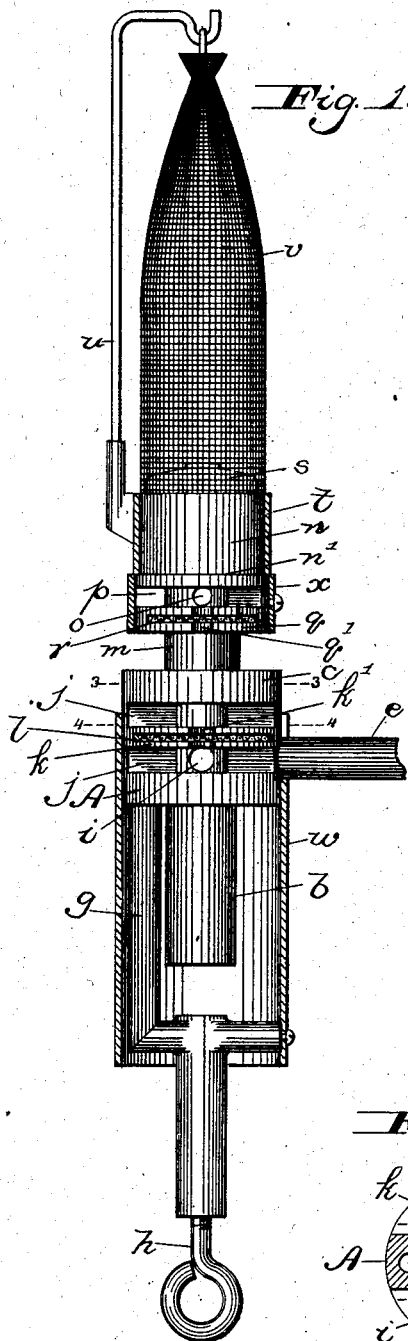


Fig. 3.

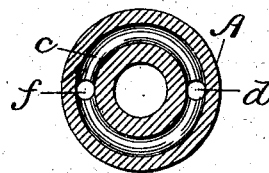
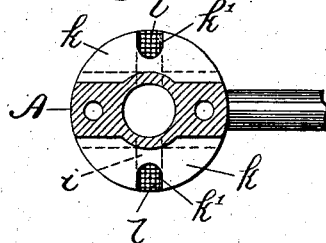


Fig. 4.



Witnesses
H. F. Meyer, Jr.
Frederick S. Stitt.

Inventor.
Alfred J. Simpson, Jr.
By Mann & Co.,
Attorneys.

UNITED STATES PATENT OFFICE.

ALFRED J. SIMPSON, JR., OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO JAMES L. WICKS, OF BALTIMORE, MARYLAND.

VAPOR-LAMP.

SPECIFICATION forming part of Letters Patent No. 728,509, dated May 19, 1903.

Application filed June 18, 1902. Serial No. 112,135. (No model.)

To all whom it may concern:

Be it known that I, ALFRED J. SIMPSON, JR., a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Vapor-Lamps, of which the following is a specification.

This invention relates to incandescent vapor-lamps, and particularly to that class of such lamps in which the vapor or oil-gas is generated in the body of the burner by means of subfires burning in and heating said body.

The object of the invention is to provide an improved construction of vapor-lamp of this character wherein a rapid and thorough vaporization of the oil will be effected.

The invention consists of certain constructions, arrangements, and combinations of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the improved incandescent vapor-lamp with the jackets in section to better illustrate the construction. Fig. 2 is a vertical sectional view of the lamp-body. Figs. 3 and 4 are horizontal sectional views taken on the lines 3 3 and 4 4, respectively, of Fig. 1.

Referring to the drawings, the letter A designates the lamp-body, provided with a vertically-extending main vapor-passage *a*, in whose lower end is secured an air and gas mixing tube *b*. The said body A is further provided with a generating-chamber *c*, which is annular, as shown in Fig. 3. Into one side of said chamber opens a vertical inlet-passage *d*, leading from a supply-pipe *e*, secured in the lamp-body, and from a diametrically opposite point in said chamber leads a vertical outlet-passage *f*, opening at its lower end into an elbow-pipe *g*, provided at its lower end, directly under the mixing-tube *b*, with an outlet *g'*, governed by a needle-valve *h*.

Below the generating-chamber *c* are a plurality of (in this instance two) lateral branch vapor-passages *i*, leading outwardly from said main vapor-passage *a* to the outside of the lamp-body, and said body is provided adjacent the outer end of each of said branch passages with two segmental transversely-extending recesses *j*, one above the other, each

upper recess being separated from the lower by means of a pair of spaced-apart transversely-extending lips *k*, which extend directly over the said branch passages and are provided with slots *k'*, the lower one of which intersects the outer end of the respective branch passage. Between each pair of lips is inserted a section of wire-gauze *l*, as indicated in Figs. 1 and 4.

Above the generating-chamber *c* the burner-body A is provided with a reduced neck *m*, which supports the burner-head *n*, and said head is provided with a plurality of lateral branch vapor-passages *o*, a recess *p*, and lips *q*, with their end slots *q'* and gauzes *r* substantially similar to the branch passages *i* and concomitant parts below the generating-chamber, except that the recess *p* is a single recess extending almost around the body from one branch passage *o* to the other and that the lips *q* are below the said branch passages instead of above them, as indicated in Fig. 1.

The usual burner-cap *s* is fitted within the upper end of the head *n*, and the latter is provided with an exterior shoulder *n'*, which forms a rest for the band *t*, which carries the rod *u*, from which the incandescing mantle *v* depends.

The lamp-body A is provided with two jackets. One jacket *w* surrounds the lower end of the body and also covers the outer ends of the lower series of branch vapor-passages *i*, and the other jacket *x* surrounds the lower portion of the head *n* of the body and covers the outer ends of the upper series of branch vapor-passages *o*, as indicated in Fig. 1.

In practical operation after the lamp-body A has been once sufficiently heated the oil flowing in the supply-pipe *e* enters the hot body through the inlet-passage *d* and spreads around in opposite directions through the generating-chamber *c*, where it is at once transformed into oil-gas. The said oil-gas flows downwardly through the outlet-passage *f* and pipe *g* and out through the outlet-aperture *g'*, where it mixes with air, and the vapor thus formed ascends the mixing-tube *b*. The major portion of the vapor passes through the burner-cap to the mantle, while the remaining portion passes out laterally through

the branch vapor-passages both above and below the generating-chamber to feed the sub-fires for keeping said chamber hot.

It will thus be seen that my improved vapor-lamp is provided with a generating-chamber located between two series of subfires, which insures the speedy and effective vaporization of the oil. Furthermore, as the oil passes in at one side of the lamp-body and spreads around a generating-chamber to the opposite side of the burner the said oil passes over a considerable heated area, which also assists in the thorough vaporization of the oil.

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

1. In a vapor-lamp, a body provided with a main vapor-passage, an upper and a lower series of lateral branch vapor-passages, slots, k' , and q' , intersecting the outer ends of said upper and lower branch vapor-passages, respectively, and a generating-chamber located between said two series of branch vapor-passages; and gauzes in said body at said slots, as and for the purpose set forth.

2. In a vapor-lamp, a body provided with a main vapor-passage, an upper and a lower series of lateral branch vapor-passages, and a generating-chamber located between said two series; gauzes in said body adjacent to the outer ends of all of said branch vapor-passages, the gauzes for the upper series being below the same and the gauzes for the lower series being above the same; and jackets surrounding the said body and covering the outer ends of said branch vapor-passages, as and for the purpose set forth.

3. In a vapor-lamp, a body provided with a main vapor-passage, an upper and a lower series of lateral branch vapor-passages, a generating-chamber located between said two series, and upper and lower recesses in its outer wall contiguous to the outer ends of said

branch vapor-passages; a pair of spaced-apart transversely-extending lips adjacent to said recesses and provided in their outer walls with slots, those lips adjacent to the upper recesses being below the upper branch vapor-passages and those adjacent to the lower recesses being above the lower branch vapor-passages; and gauzes in said lips and extending across said slots, as and for the purpose set forth.

4. In a vapor-lamp, a body provided with a main vapor-passage, an upper and a lower series of lateral branch vapor-passages, a generating-chamber located between said two series, and recesses in its outer wall contiguous to the outer ends of said branch vapor-passages; a pair of spaced-apart transversely-extending lips adjacent said recesses and provided in their outer walls with slots; and gauzes in said lips and extending across said slots, as set forth.

5. In a vapor-lamp, a body provided with an annular generating-chamber, a reduced neck above said chamber, a head supported on said neck, and a main vapor-passage extending through the body and its neck and head and having branch vapor-passages leading from said main passage both in said head and in the body below the generating-chamber, both the body and head being provided with recesses contiguous to the outer ends of said branch vapor-passages; a pair of spaced-apart lips adjacent said recesses and provided in their outer walls with slots; gauzes in said slots; and jackets surrounding the body and the lower portion of its head and covering the outer ends of said branch vapor-passages, as set forth.

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

ALFRED J. SIMPSON, JR.

Witnesses:

CHARLES L. VIETSCH,
FREDERICK S. STITT.