

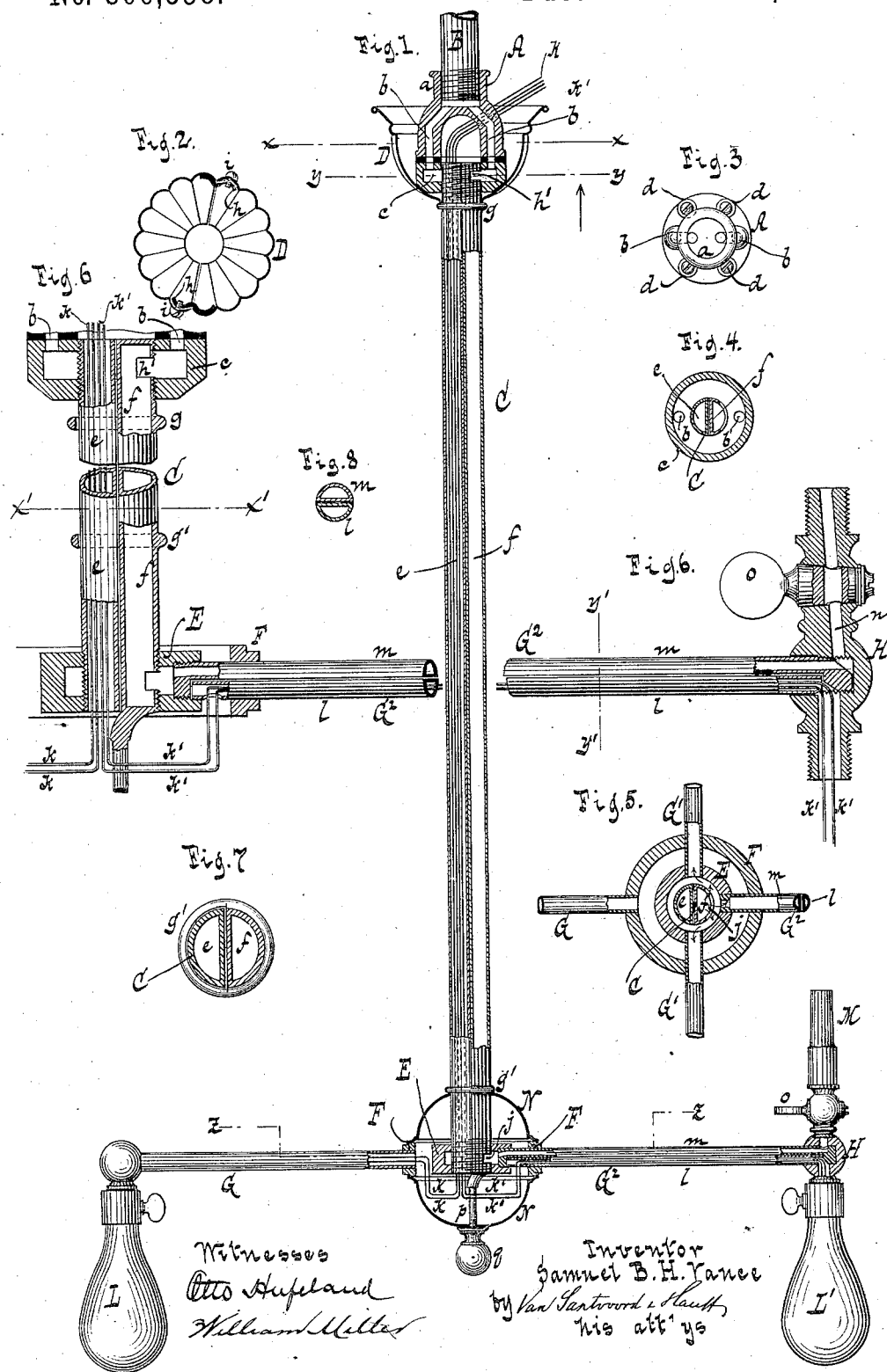
(No Model.)

S. B. H. VANCE.

COMBINED ELECTRIC LIGHT AND GAS FIXTURE.

No. 306,558.

Patented Oct. 14, 1884.



# UNITED STATES PATENT OFFICE.

SAMUEL B. H. VANCE, OF NEW YORK, N. Y.

## COMBINED ELECTRIC-LIGHT AND GAS FIXTURE.

SPECIFICATION forming part of Letters Patent No. 306,558, dated October 14, 1884.

Application filed April 24, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL B. H. VANCE, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Electric-Light and Gas Fixtures, of which the following is a specification.

The principal object of my present invention is the production of an electric-light and gas fixture in which the gas is not permitted at any point to come in contact with the conductors of electricity.

The peculiar and novel construction of my fixture is pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical section of a chandelier constructed according to my invention. Fig. 2 is a horizontal section of the ornamental shell in the plane  $x x$ , Fig. 1. Fig. 3 is a plan or top view of the coupling connecting the chandelier to the gas-pipe. Fig. 4 is a horizontal section in the plane  $y y$ , Fig. 1, looking upward. Fig. 5 is a horizontal section in the plane  $z z$ , Fig. 1. Fig. 6 is a sectional side view of a portion of the chandelier on a larger scale than the previous figures. Fig. 7 is a horizontal section in the plane  $x' x'$ , Fig. 6. Fig. 8 is a vertical section in the plane  $y' y'$ , Fig. 6.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the coupling which forms the connection between the chandelier and the gas-pipe B. This coupling (a top view of which is shown in Fig. 3) consists of two parts—viz., the screw-socket  $a$ , with its two hollow arms,  $b b$ , and the annular gas-chamber  $c$ , (a horizontal section of which is shown in Fig. 4.) These two parts are insulated from each other, and they are united by screws  $d d$ , Fig. 3. The annular gas-chamber  $c$  is provided with an internal screw-thread to receive the compound tube C. This tube is composed of two semi-cylinders,  $e f$ , (see Figs. 4, 5, and 7,) which are placed with their flat faces against each other and held together by rings  $g g'$ , which are firmly secured to the semi-cylinder  $e$ , while the semi-cylinder  $f$  passes loosely through the same. Instead of these rings other means may be used to retain the two semi-cylinders in the proper relation toward each other. When the

semi-cylinders are united, they form a tube with two channels separated from each other by the bottoms or flat sides of the semi-cylinders. The semi-cylinder  $f$  is closed at top and bottom, (see Fig. 6,) and near its upper end is a slot,  $h'$ , so that when the compound tube C is screwed into the annular gas-chamber  $c$  the interior of the semi-cylinder  $f$  communicates with the interior of the gas-chamber, and consequently the gas which passes through the hollow arms  $b b$  of the coupling A into the annular gas-chamber is free to enter the semi-cylinder  $f$ , but it cannot pass into the semi-cylinder  $e$ . The joint between the tube C and the coupling A is concealed by the ornamental cup D, which is made in two halves, (Fig. 2,) said two halves being united by lugs  $h h$  and screws  $i i$ , the lugs being fastened to one half and made to extend across the joint, so that they can be fastened to the other half by the screws, as shown in Fig. 2. The lower end of the compound tube C is provided with a screw-thread, like its upper end, and it is screwed into an annular gas-chamber, E, which is situated in the center of a ring, F, Fig. 5. The interior of the semi-cylinder  $f$  communicates with the interior of the gas-chamber E through a slot,  $j$ , near its bottom end, said bottom end being closed, as already stated. The electric conductors  $k k'$  are passed through the semi-cylinder  $e$ , which is open at both ends, (see Figs. 1 and 6,) and from the bottom end of said semi-cylinder the conductors or wires pass through the arms of the chandelier to the electric lamps. These arms may be of different construction, as shown in Fig. 5, where the arm G is intended for electricity alone, the arms  $G' G'$  are intended for gas alone, and the arm  $G^2$  is intended both for gas and electricity. The arm G screws into the ring F, and to its outer end is secured the electric lamp L. The wires  $k$  pass from the semi-cylinder  $e$ , through the arm G, to the lamp. The arms  $G' G'$  pass freely through the ring F, and they screw into the annular gas-chamber E, so that the gas can pass freely from this chamber to the gas-burners, which are secured to the outer ends of said arms. The arm  $G^2$ , which is intended for both gas and electricity, is composed of two semi-cylinders,  $l m$ , which are placed with their flat faces or bottoms against each other, (Figs. 6 and 8,) and which are pro-

vided with screw-threads at both ends, the inner screw-threads being intended to screw into the annular gas-chamber E, while the other screw-threads screw into a casting, H, which supports the electric lamp L' and the gas-burner M, Fig. 1. The semi-cylinder *m* is open at both ends, and it communicates at its inner end with the interior of the annular gas-chamber E, while it communicates at its outer end with a gasway, *n*, formed in the casting H and leading to the gas-burner M. The communications between the interior of the semi-cylinder *l* and the gas-chamber at the inner end and the gasway *n* at the outer end are closed, but openings are left, so that the wires *k'* can be passed through said semi-cylinder to the lamp L'. The casting H is provided with a gas-cock, *o*, for closing the gasway *n*.

From the closed bottom end of the semi-cylinder *f* of the compound tube C extends a screw-rod, *p*, which is provided with a nut, *g*, and which serves to clamp and retain in position the ornamental cups N N, for concealing the gas-chamber E, and the wires leading from the semi-cylinder *e* to the arms of the chandelier.

In the example represented by the drawings I have shown a chandelier; but it will be readily understood that my invention is applicable to different kinds of gas-fixtures, and I do not want to confine myself in its application to chandeliers.

The compound tube C which I have shown in the drawings is made of two semi-cylinders, but the form or transverse sections of the two parts composing the tube C may be changed in various ways without departing from the spirit of invention.

I do not herein claim the sectional or bisected cup or canopy for admitting the electrical and other connections to be conveniently made at the inner end of the fixture, as such is embraced in my application Serial No. 128,499, filed April 19, 1884.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a gas and electric-light fixture, the combination, with a tube, C, having wire and

gas passages, of the coupling A, composed of the socket *a*, having hollow arms *b*, and the gas-chamber *c*, having a socket receiving the end of the tube and insulated from the socket *a*, and an interior passage for the electrical wires or conductors, substantially as described.

2. The combination, substantially as hereinbefore described, with the coupling having a passage for the electric conductors or wires and a gas-chamber, of two semi-cylindrical tubes placed with their flat sides against each other and held together by rings or other suitable means, one of said semi-cylindrical tubes forming the passage for the wires and the other forming the gasway.

3. The combination, substantially as hereinbefore described, with the coupling having a passage for the electric conductors or wires and an annular gas-chamber, of two semi-cylindrical tubes placed with their flat sides against each other and held together by rings or other suitable means, one of said semi-cylindrical tubes being open at both ends and communicating with the passage for the wires, while the other is closed at both ends and communicates through a slot in its side with the gas-chamber.

4. The combination, substantially as hereinbefore described, with the coupling A and compound tube C, of a gas-chamber, E, and a compound arm, G<sup>2</sup>, having two separate passages, one for the gas and the other for the electric conductor or wire.

5. The combination, with the compound arm G<sup>2</sup>, having a gasway and wire-passage, of a casting, H, provided with a gasway which communicates with the gasway in the arm G<sup>2</sup>, and a passage for the wires, which communicates with the wire-passage in the arm G<sup>2</sup>, substantially as shown and described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

SAML. B. H. VANCE. [L. S.]

Witnesses:

JAMES WYATT, Jr.,

J. T. DENNIS.