No. 755,346. PATENTED MAR. 22, 1904.

S. BERNHEIM.

GAS FIXTURE.

APPLICATION FILED JUNE 1, 1903.

NO MODEL.

Fig. 1

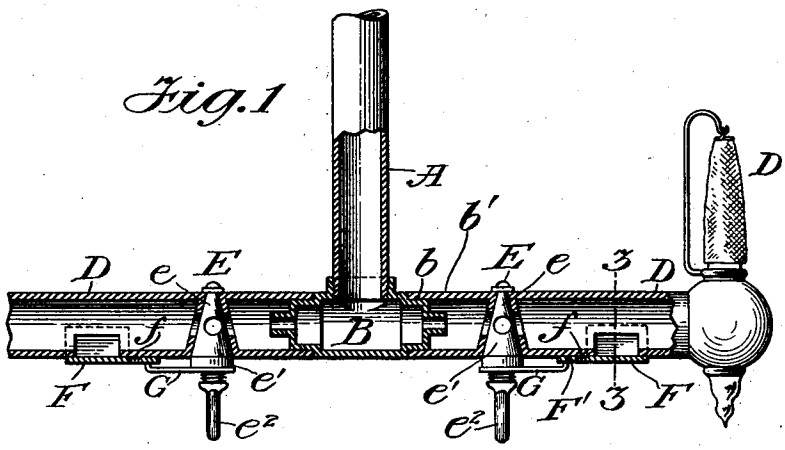


Fig. 2

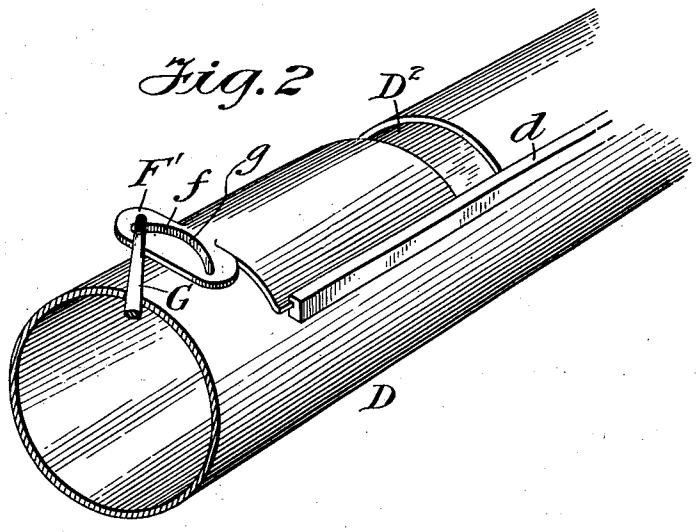


Fig. 3

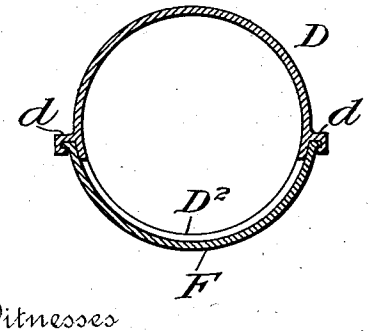
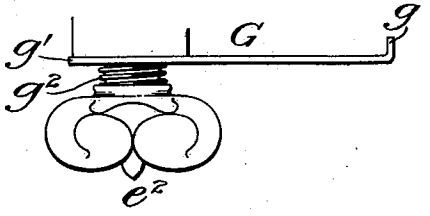


Fig. 4



Witnesses
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No. 755,346. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

SAMUEL BERNHEIM, OF NEW YORK, N. Y.

GAS-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 755,346, dated March 22, 1904.

Application filed June 1, 1903. Serial No. 159,475. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL BERNHEIM, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Gas-Fixtures, of which the following is a specification.

The subject of the present invention is a novel gas and air controlling means for chandeliers, brackets, and other similar fixtures, the primary object of the invention being to increase the adaptability of the class of articles mentioned for having incandescent or "Welsbach" mantles used in connection therewith.

With the above and other purposes in view the invention consists generally of a gas-fixture provided with a cock for controlling the supply of gas to the burner and provision whereby when the gas-cock is opened communication will be established between the gas-passage and the atmosphere, whereby a combustible mixture will be formed which can be delivered to and consumed at the burner. When the cock is closed to interrupt the flow of gas to the burner, the air-supply will be correspondingly cut off.

As is well known, in using incandescent mantles, the height and structural character of the latter are such that the ignition of the gas only takes place after it has been issuing from the jet-tip for a considerable period. The reticulated formation of the mantle results in a cylinder through the fabric of which the gas and air cannot pass, and hence it is not until such cylinder has become filled with a considerable body of gas that sufficient of the latter escapes at the cylinder-top to unite with the air and permit ignition. The resultant flame communicated to the considerable body of gas within the cylinder causes an explosion, which seriously impairs the durability of the mantle and in many instances destroys the same. Another difficulty is that the limited diameter of the mantle, together with its contracted upper end, tend to restrict the free commingling of the air with the gas issuing at the top, resulting in an imperfect mixture, and thereby preventing perfect combustion. By my improvements I obviate the objections noted and in addition attain other important advantages.

There are other important features connected with my invention, which, besides those alluded to, are clearly explained in the subsequent detailed description.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical sectional view of a gas-chandelier equipped with incandescent mantles and embodying a form of my invention, the gas and air controlling provision being represented as closed. Fig. 2 is a perspective view showing, on an enlarged scale, a portion of one of the arms of the chandelier in an inverted position; the air-admission means being open. Fig. 3 is a cross-section of one of the chandelier-arms, the same being represented on an enlarged scale and the plane of section being that indicated by the broken line 3 3, Fig. 1. Fig. 4 is an enlarged detail view of the key of one of the gas-cocks and certain parts carried thereby.

Similar reference characters are employed to designate corresponding parts in the figures of the drawings wherein they occur.

I have illustrated a form of my invention in connection with a gas-chandelier, A referring to the hanger, carrying at its lower end the coupling B, to which in turn are secured the oppositely-extending arms C D, provided with outer upward bends *c d*, having jets and tips and equipped with incandescent mantles C′ D′.

A portion *b* of the couplings extends for a short distance within the inner end of the contiguous arm and has a short contracted nozzle *b′* horizontally disposed within its arm. Interposed within each arm is the socket *e* of a gas-cock E, the plug *e′* of which, as well as the walls of the socket, contain suitable parts, so that upon turning the plug by means of the key *e²* a through way is established or interrupted, according to the direction of movement.

As the rest of the construction to be described is duplicated at either side of the coup-

ling B a description of the parts at one side will suffice for an understanding of both.

A short distance from the cock E the arm D is cut away at its under side to present a liberal opening D^2, the arm being provided with externally-located longitudinal ribs *d d*, located adjacent to the longitudinal edges of the opening and extending beyond the transverse edges thereof for some distance. These ribs engage and retain a longitudinally-sliding plate F, which is curved in cross-section to intimately conform with the bottom of the arm, said plate being of such dimensions that when moved to a proper position it will completely cover the opening in the arm. This plate has integrally at its inner end a transversely-elongated horizontal tongue F', containing a crescent-shaped slot *f*, which bows in the direction of the plate. Engaged within the slot *f* is the hook end *g* of a somewhat extended horizontal finger G, the butt *g'* of which is mounted on the key of the adjacent cock to turn therewith but capable of a limited downward movement on said key to permit the end *g* to be disengaged from the tongue-slot when desired. A short expanding spring g^2 on the key, immediately beneath the finger-butt, serves to normally hold the finger in its highest position.

From the description thus far it will be readily comprehended that when the cock is closed the plate F covers the opening D^2, the finger-hook *g* occupying a position in one of the ends of the slot *f*. Now upon turning the cock to establish a through way for the passage of the gas the finger will be laterally swung and its hook *g* travel toward the central part of the slot, the configuration of which will result in one of the curved walls of the slot exerting a cam action to longitudinally shift the plate and recover its opening, as illustrated in Fig. 2. With the parts thus conditioned an ample volume of air will enter through the opening D^2 and combine with the gas flowing along the passage in the arm to form a readily-ignitible and combustible mixture highly adapted for service in connection with incandescent mantles. A reverse movement of the key will obviously cut off the gas and stop the air admission.

In case it should be desirable to operate the cock without uncovering the air-opening D^2 the finger G may be moved down to an extent sufficient to disengage its hook from the tongue F'.

The invention can be embodied in exceedingly simple form and is highly useful.

I do not desire to be understood as limiting myself to the particular construction and arrangement of parts shown and described, but reserve the right to all modifications that may be fairly considered within the scope of my invention.

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

1. The combination with a gas-fixture including a hanger and horizontal arm, the latter provided at its outer extremity with a burner, and having an intermediately-located longitudinally-disposed air-admission opening, of a cock in said arm contiguous to the opening and having a horizontal port adapted to be turned parallel with said opening, and a valve controlling said opening and operatively connected with the cock.

2. The combination with a gas-fixture including a hanger and horizontal arm, the latter provided at its outer extremity with a burner, and having an intermediately-located longitudinally-disposed air-admission opening, of a cock in said arm contiguous to the opening and having a horizontal port adapted to be turned parallel with the opening, and a valve controlling said opening and detachably connected with the cock to be operable thereby.

3. The combination with a gas-fixture including a hanger and horizontal arm, the latter provided at its outer extremity with a burner and having an intermediately-located longitudinally-disposed air-admission opening, of a cock in said arm contiguous to the opening and having a horizontal port adapted to be turned parallel with the said opening, a valve controlling the latter, and a spring-yielding finger carried by the cock and detachably engaging said valve.

4. The combination with a gas-fixture including a hanger and a horizontal arm, the latter provided at its outer extremity with a burner and having an intermediately-located longitudinally-disposed air-admission opening, a coupling connecting said arm with the hanger and having a nozzle projecting into the arm, of a cock in said arm between the nozzle and opening and having a horizontal port adapted to be turned parallel with the said opening, and a valve for the latter operatively connected with the cock.

5. The combination with a gas-fixture including a hanger and horizontal arm, the latter provided at its outer extremity with a burner and having an intermediately-located lower air-admission opening with guide-ribs external thereto, of a cock in said arm contiguous to the opening, a curved plate slidingly guided in said ribs and a connection between the plate and the cock.

6. The combination with a gas-fixture including a hanger and horizontal arm the latter provided at its outer extremity with a burner having an intermediately-located lower air-admission opening with guide-ribs external thereto, a curved plate slidingly guided in said ribs, and having a slotted portion, a coup-

ling connecting the hanger and arm and having a nozzle projecting within the arm, a cock in the arm between the nozzle and opening, and a spring-yielding finger carried by the cock and engaging the slotted portion of the plate.

Signed at New York, in the county of New York and State of New York, this 28th day of May, A. D. 1903.

SAMUEL BERNHEIM.

Witnesses:
CHAS. S. CLAGETT,
M. BENDER.