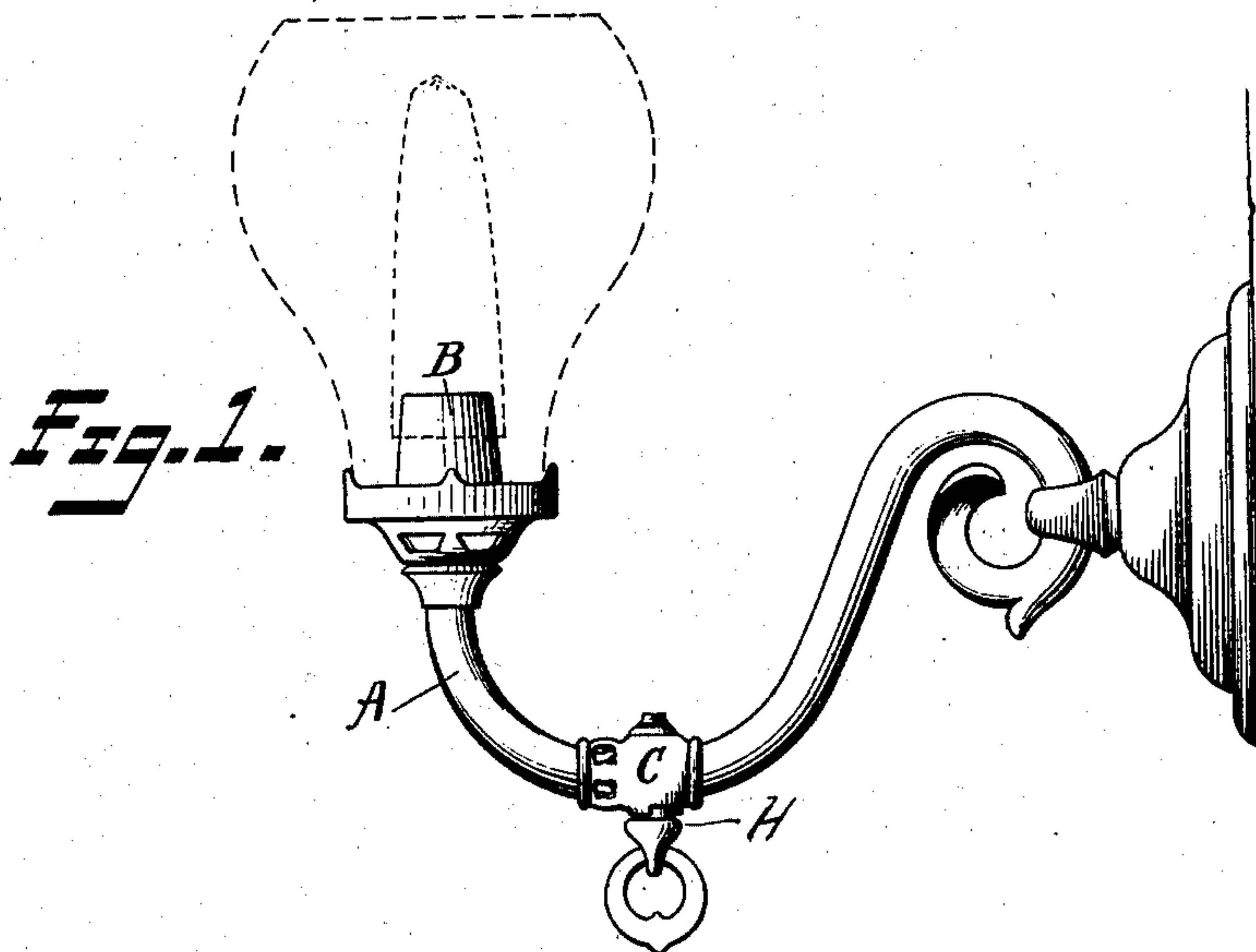


No. 741,967.

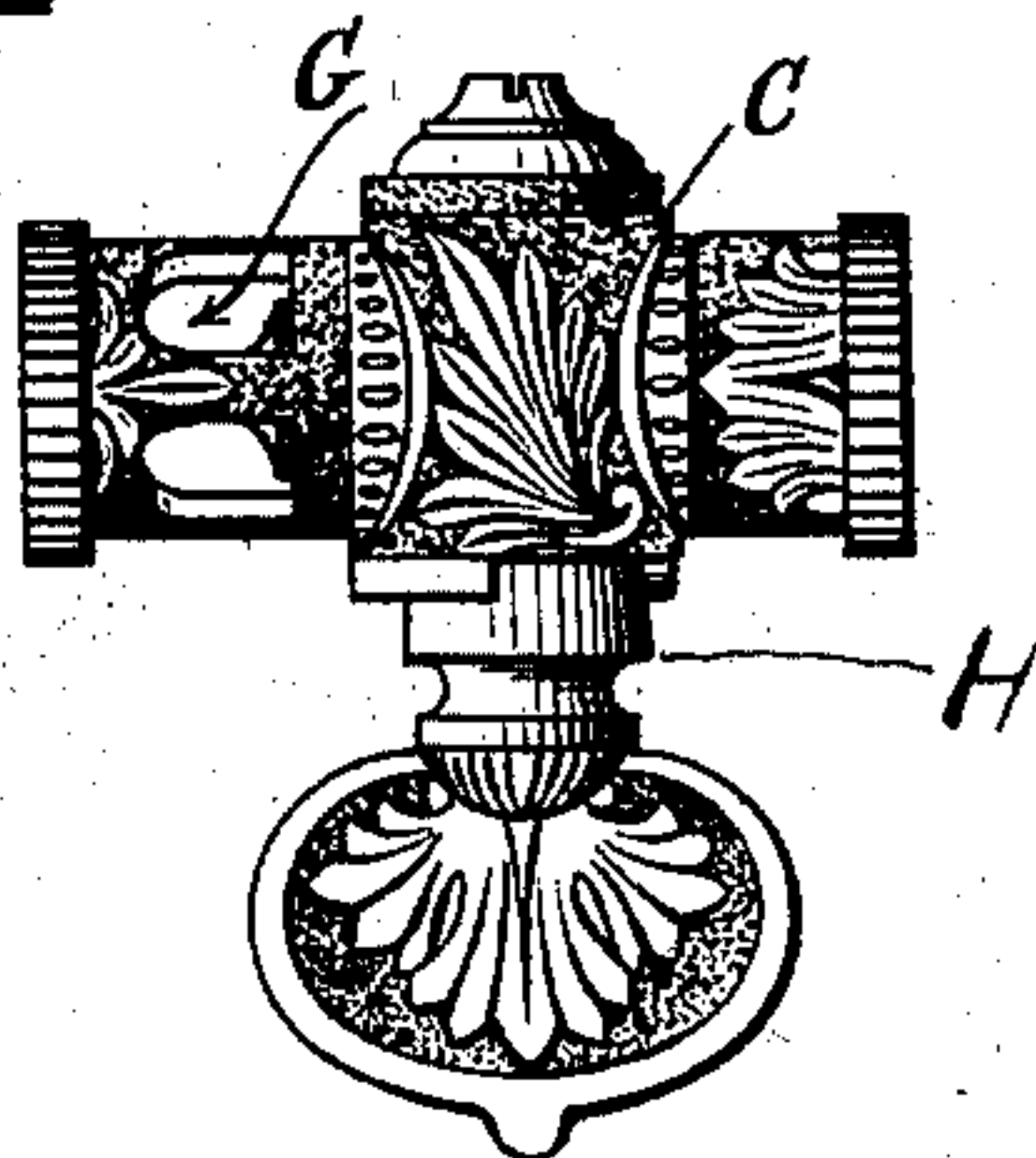
PATENTED OCT. 20, 1903.

J. HUTCHINSON.  
INCANDESCENT GAS FIXTURE FITTING,  
APPLICATION FILED MAR. 14, 1903.

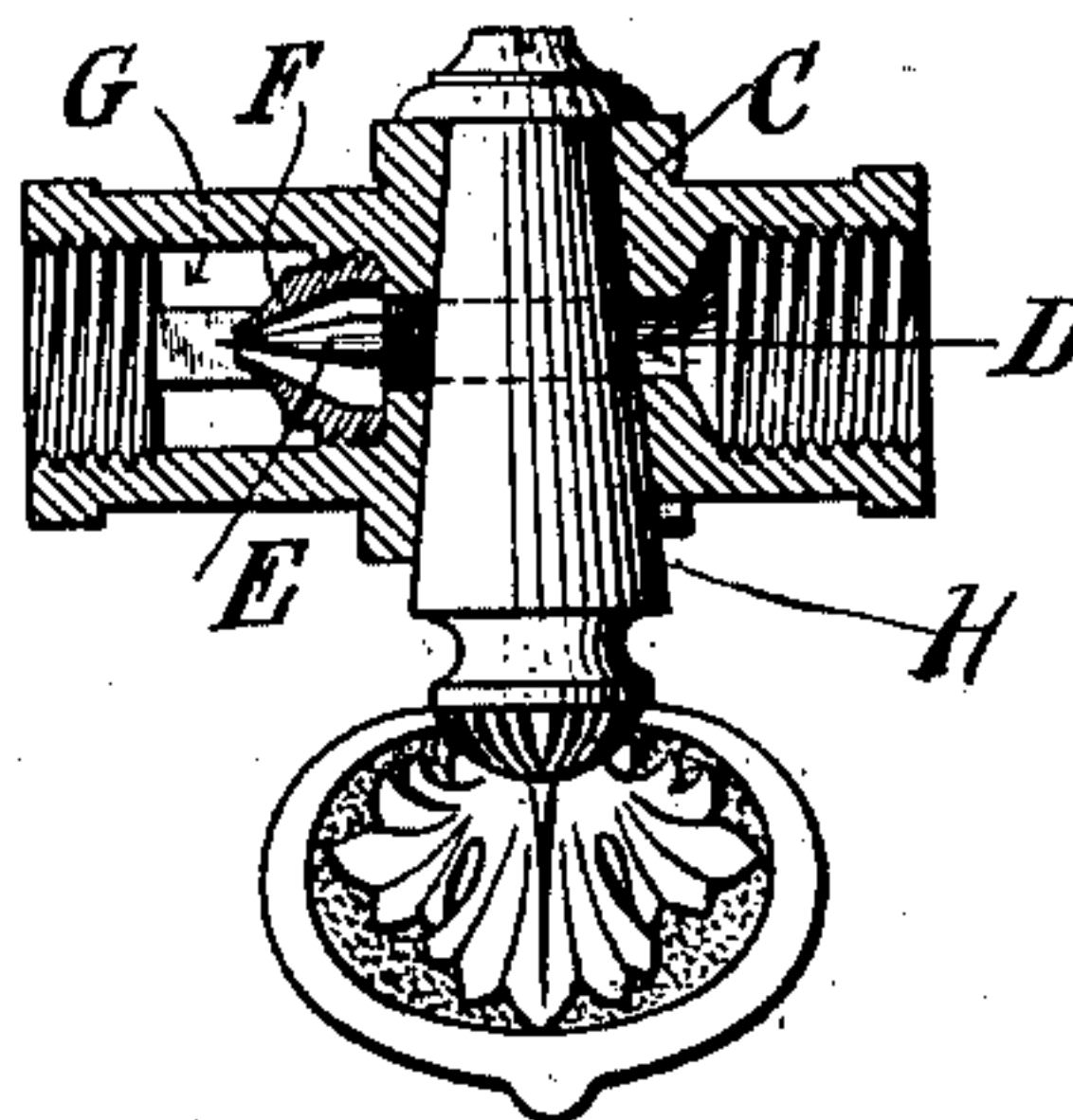
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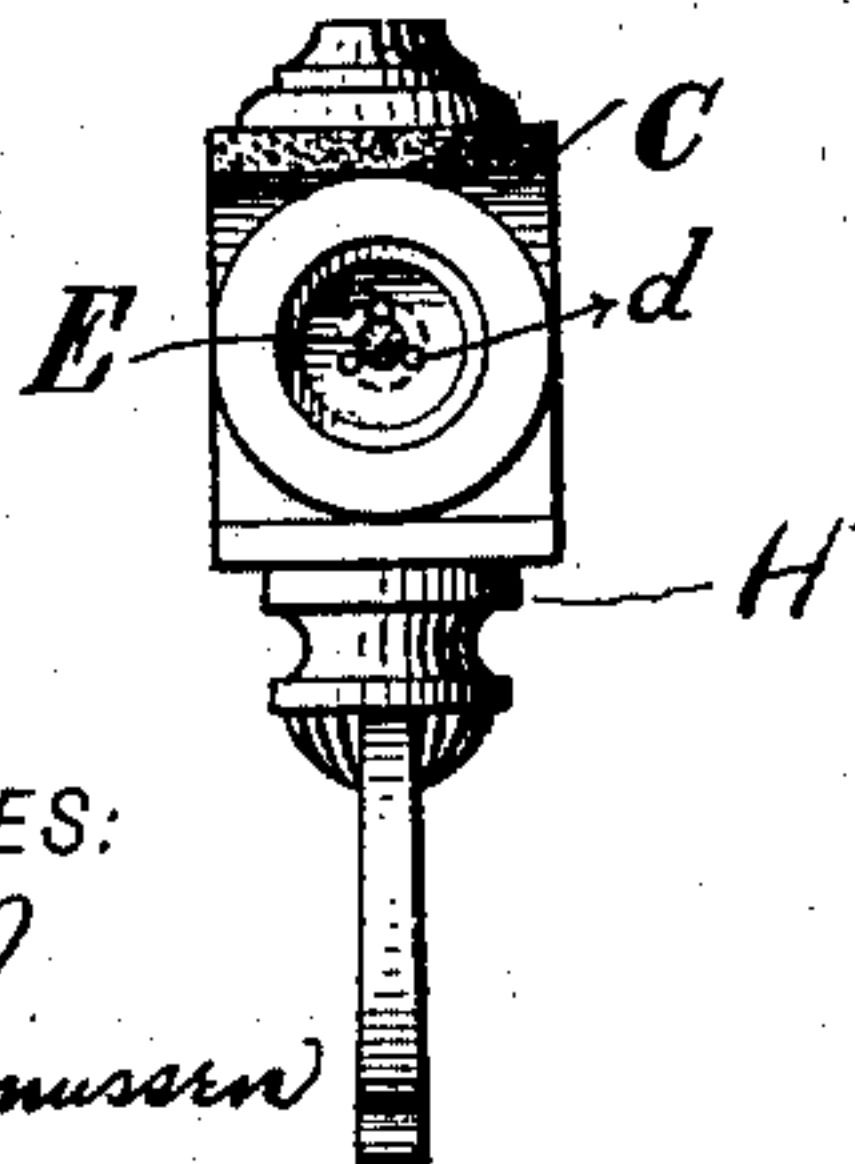
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



WITNESSES:

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INVENTOR

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BY

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# UNITED STATES PATENT OFFICE.

JOSEPH HUTCHINSON, OF NEW YORK, N. Y.

## INCANDESCENT-GAS-FIXTURE FITTING.

SPECIFICATION forming part of Letters Patent No. 741,967, dated October 20, 1903.

Application filed March 14, 1903. Serial No. 147,712. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH HUTCHINSON, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Incandescent-Gas-Fixture Fittings, of which the following is a full, clear, and exact description.

My invention relates to improvements in incandescent-gas-light fixtures, and particularly to what is known as "fittings."

The object of this invention is to so construct a fitting that it may be employed with any form or design of fixture to provide means not only for regulating the flow of gas, but also for admitting air through the fixture to the burner-head. In this art for the perfect combustion of the inflammable mixture it is desirable that the proportionate parts of air and gas be properly determined and that after the two component parts are united they be permitted to intermingle and become thoroughly mixed before they arrive at the point of ignition, which is at the top of the burner-head. In order to accomplish these results, I have constructed the fitting in such a way that the passage of gas therethrough may be regulated to a nicety as to its amount and so that air may be admitted immediately adjacent to the gas-outlet before passing through that part of the fixture-arm which lies beyond and toward the burner-head. In order to accommodate the different powers of light required under varying circumstances, a different size of burner-head may be employed without changing any of the other parts of the fixture-arm, it merely being necessary that the size of the gas-outlet correspond with the size of the burner-head.

The construction will be found to be such that in installing a system of incandescent gas-lighting one may purchase a series or set of fittings of uniform or varying design as desired to be used in the entire system. The other parts of the fixtures—such as chandeliers, wall-brackets, fixture-arms, and burner-heads—may then be purchased independently and installed as desired. Moreover, if an ordinary yellow-flame gas-light is in use it may be readily converted and at slight ex-

pense into an incandescent light by simply substituting a gas-cock embodying my invention for that ordinarily employed and replacing the plain gas-tip with a burner-head, all the other parts of the fixture or chandelier remaining the same and there being no change in the design, height, or position of the parts.

The construction and use of a fitting embodying my invention will be more clearly seen in the accompanying drawings of part of a chandelier or wall-bracket.

Figure 1 is a side elevation of a fixture-arm and a gas-cock fitting embodying the improvements of my invention. Fig. 2 is a side elevation of a full-sized gas-cock fitting embodying my invention, but of a slightly-different design from that shown in Fig. 1. Fig. 3 is a longitudinal cross-sectional view of the gas-cock fitting shown in Fig. 2, showing the interior construction with a gas-outlet regulator and air-inlets. Fig. 4 is an end elevation of the gas-cock fitting shown in Fig. 2, but with the regulator-cap shown in Fig. 5 removed. Fig. 5 is a perspective view of the regulator-cap.

A is the fixture-arm. B is the burner-head. C is the body of a fitting. All these parts are arranged substantially as shown in Fig. 1, with proper connections to the gas-supply and the necessary incandescent mantle and globes or shades, as is customary in structures of this general character. The fitting is situated in the fixture-arm at a point between the gas-supply and the burner-head, with a sufficient portion of arm between the fitting and the head to serve as a mixing-chamber.

The fitting, as particularly shown in cross-section in Fig. 3, is provided at the ends with suitable means—as, for instance, screw-threads—for making the proper connections.

D is a longitudinal passage or inlet into the fitting. The outlet *d* is of a smaller size than the inlet D. In the form herein the outlet is formed by three small holes. At the outlet in the form herein I have provided a gas-regulator. This consists of a needle or conical plug-seat E and the cap F. This latter is formed with an opening through the central portion slightly larger in diameter than the



smaller diameter of the needle and screw-threaded at the right-hand end, so that it may be screwed into the body C of the fitting. The gas as it comes from right to left from the supply to the burner-head passes through the inlet-passage D and around the body of the valve-needle E, through the small openings *d*, and into the interior of the space within the gas-cap F. The gas then flows out between the edge of the gas-cap and the surface of the needle-valve and on toward the burner.

The body of the fitting C or an extension thereof is provided with air-inlets G, through which air is drawn in by virtue of the pressure and injector action of the gas as it passes through the valve F.

H is a conical plug in the body of the fitting by means of which the gas may be turned on or off, there being a longitudinal gas-passage through the plug to correspond with the inlet D and the outlets *d*.

When it is desired to regulate the relative proportions of gas and air passing to the burner or to increase or diminish the amount of gas passing through the valve, the cap may be rotated out or in to increase or diminish the port in the valve. For this purpose a suitable instrument may be inserted through the openings G in the fitting to forcibly turn the cap. It is preferred that the fitting of this cap in its seat be sufficiently good to prevent any accidental turning of the cap. The adjustment of the valve, therefore, cannot be interfered with accidentally or even purposely except with some degree of care. When a burner has been once installed, it is usually but seldom necessary to make any alterations whatever in the size of the gas-outlet; but this may be necessary when a change is made in the size of the burner-head or if for any other reason of a similar consequence. The needle E in the particular construction shown herein is formed with a screw-threaded shank, by means of which it is secured into the body of the fitting. This after it has once been installed may be brazed to hold it securely in place.

When the valve-outlet is made adjustable, the same size and design of fitting may be employed with any size of burner-head by simply effecting the proper adjustments.

The advantage of this improved form of fitting will be apparent to one skilled in this art, inasmuch as it enables the manufacturer to provide an efficient and exceedingly simple construction for the regulation and governing of gas at a single point in the fixture, which may be of a suitable design and of a wide field of utility.

What I claim is—

1. An incandescent-gas-light fitting having a longitudinal gas-passage therethrough and an air-inlet therein, a plug coacting with the longitudinal gas-passage, a screw-threaded

portion in said fitting, said air-inlet being located between the screw-threaded portion and the plug, an adjustable gas-regulator situated inside of said fitting and adjacent the air-inlet which may be reached through the air-inlets for the purpose of adjusting its position.

2. An incandescent-gas-light fitting having a longitudinal gas-passage therethrough and air-inlets at one side thereof, a plug coacting with the gas-passage, a valve-seat situated at one side of the plug, and a regulator-cap coöperating with said valve-seat, said cap being situated entirely inside of the body of the fitting and adjacent the air-inlets.

3. An incandescent-gas-light fitting including a body portion and a plug having longitudinal gas-passages therethrough, said body portion also having air-inlets therein, a valve-seat at one side of the plug and a gas-regulator cap having a screw-threaded portion engaging the wall of the body portion said cap being adapted to be adjusted to coöperate with the valve-seat.

4. An incandescent-gas-light fitting including a screw-threaded body portion and a plug having a gas-passage, said body having a gas-inlet, a gas-outlet of smaller size and an air-inlet adjacent the gas-outlet whereby gas and air may be united and forced from the fitting, the air-inlet being located between the screw-threaded portion of the body and the plug.

5. An incandescent-gas-light fitting including a screw-threaded body portion and a plug having a gas-passage said body having a gas-inlet, a gas-outlet to the burner and an air-inlet adjacent the gas-outlet whereby gas and air may be united and forced from the fitting, said air-inlet being located between the screw-threaded portion and the plug.

6. An incandescent-gas-light fixture including a fixture-arm, a gas-cock fitting connected thereto and having a gas-passage and an air-inlet between the plug of the gas-cock and the joint with the fixture-arm, and a burner-head at the outer end of the fixture-arm.

7. An incandescent-gas-light fixture comprising a gas-cock fitting, a screw-threaded extension from one side thereof having a gas-outlet and an air-inlet adjacent thereto situated between the plug of the gas-cock and the threaded extension, an arm-section forming a mixing-tube secured to said screw-threaded extension and a burner-head secured to said arm-section.

8. An incandescent-gas-light fitting comprising a body portion having extensions with screw-threaded portions at each side, a gas-inlet, a gas-outlet of smaller size and an air-inlet in one extension adjacent the gas-outlet and between the screw-threaded portions, a fixture-arm secured in the extension beyond the air-inlet and forming a mixing-chamber, and a burner-head carried by said arm.

9. An incandescent-gas-light fitting comprising a body portion having an extension with a screw-threaded portion at one side, a gas-inlet, a gas-outlet of smaller size and an  
5 air-inlet in the extension adjacent the gas-outlet and between the screw-threaded portion and the main body, a fixture-arm secured in the extension beyond the air-inlet and forming a mixing-chamber, and a burner-head carried by said arm.

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