

No. 736,681.

PATENTED AUG. 18, 1903.

T. BRABSON.
GAS LAMP.

APPLICATION FILED OCT. 10, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

FIG. 1.

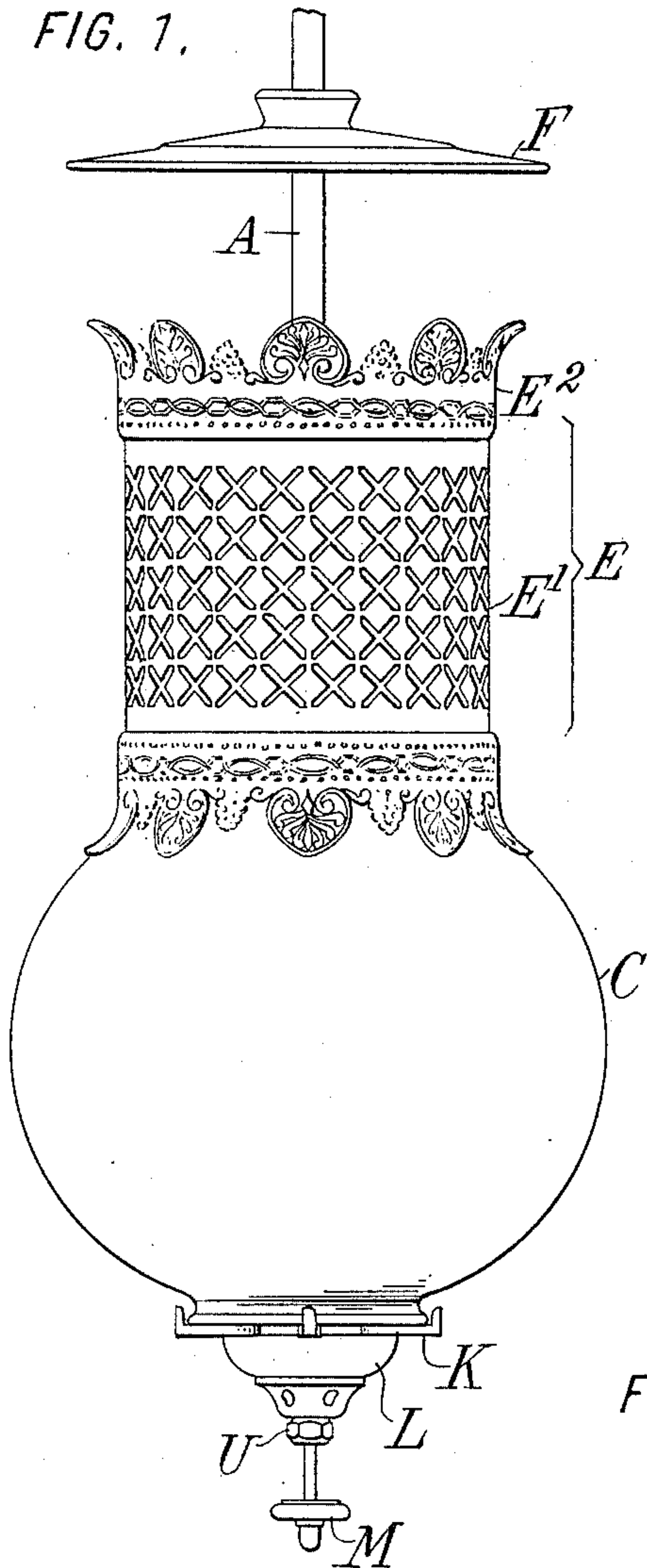


FIG. 2.

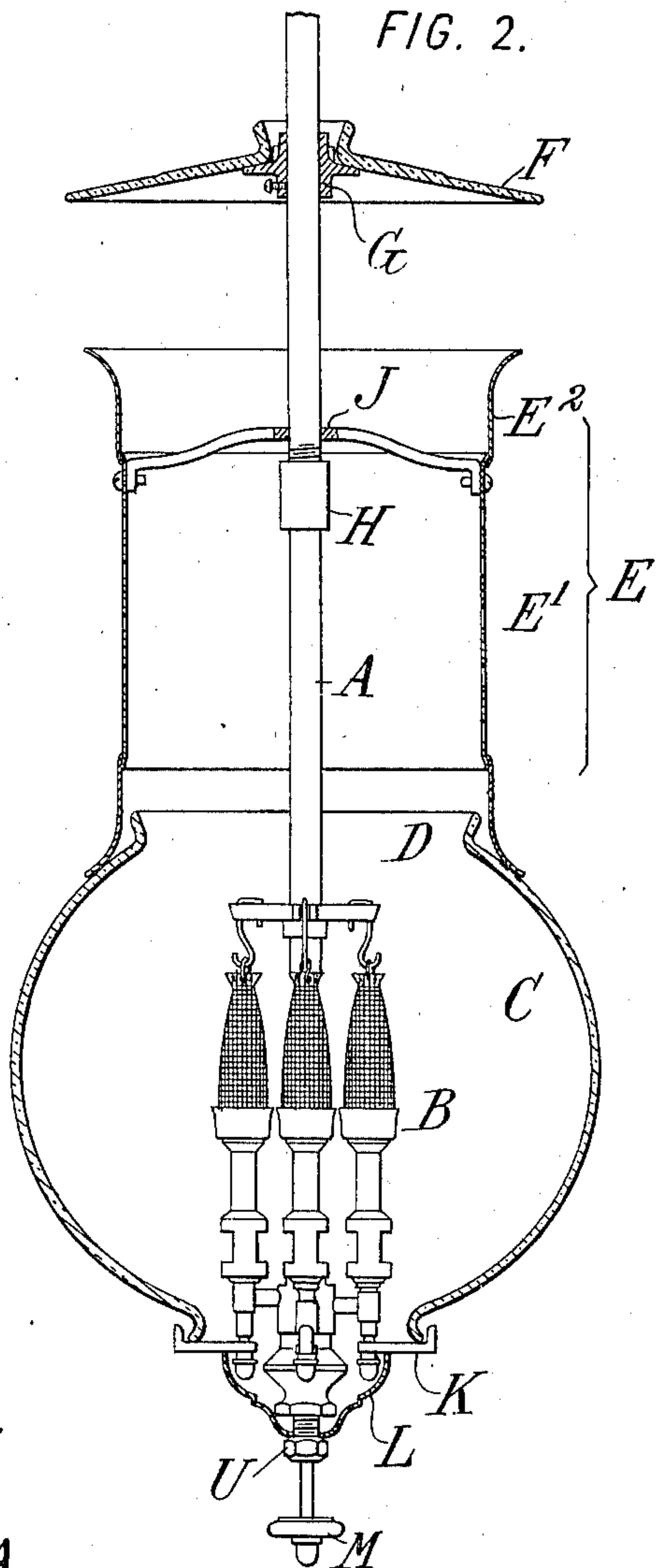
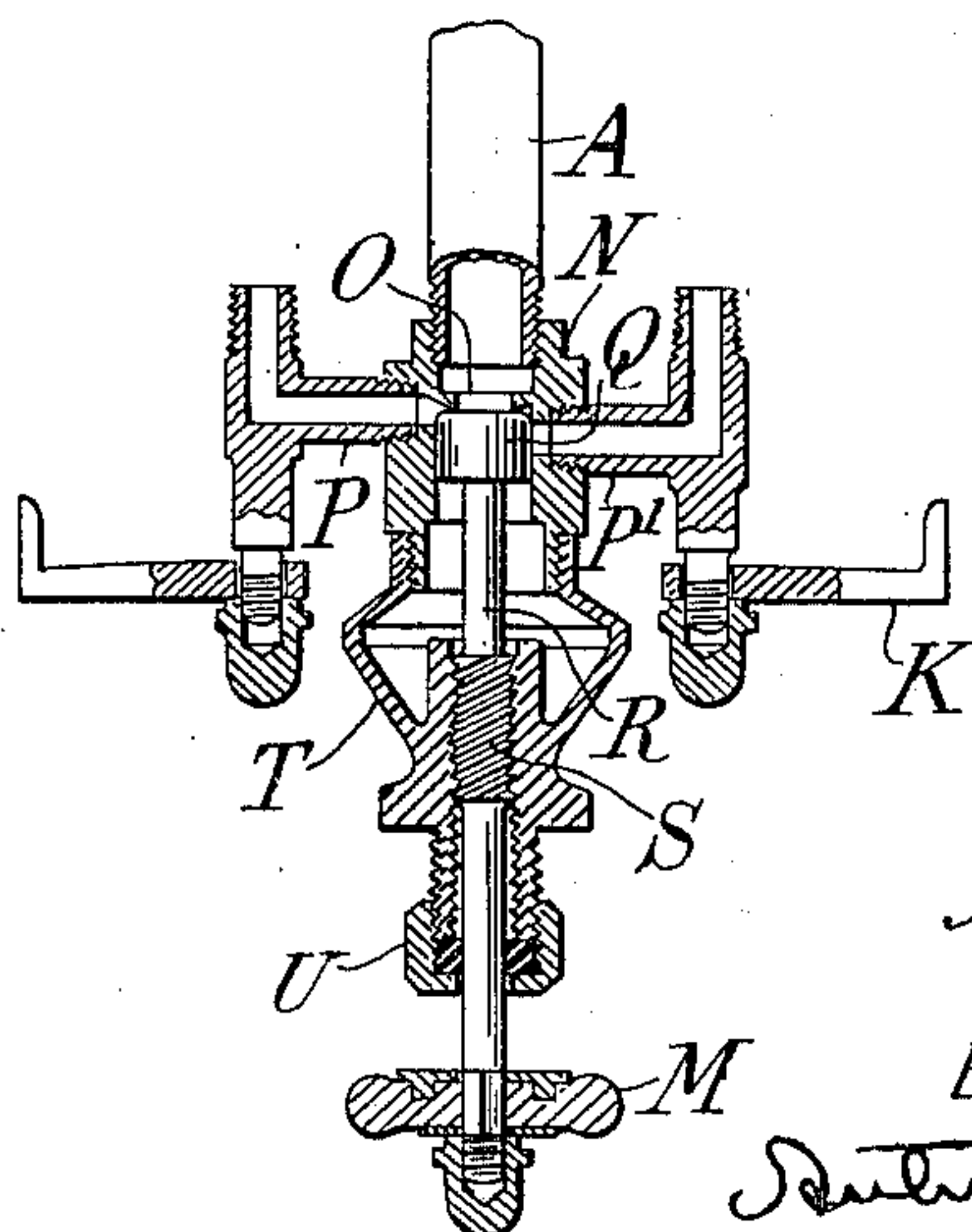


FIG. 3.



WITNESSES:

Rene' Prune
Fred White

INVENTOR:

Tom Brabson;

By Attorneys,

Arthur C. Dresser & Co

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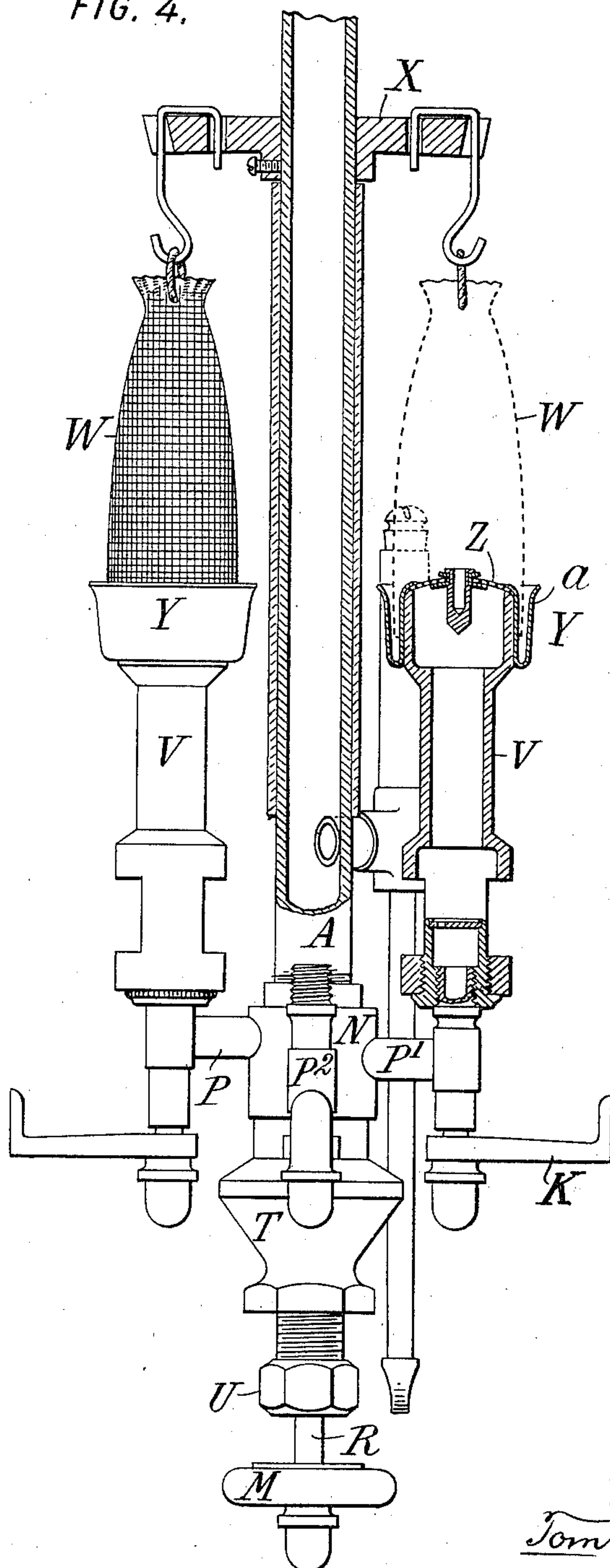
T. BRABSON.
GAS LAMP.

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NO MODEL.

2 SHEETS—SHEET 2.

FIG. 4.



WITNESSES:

Rene' Perrine
Ired White

INVENTOR:

Tom Brabson

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UNITED STATES PATENT OFFICE.

TOM BRABSON, OF BROOKLYN, NEW YORK, ASSIGNOR TO FULTON BRASS & MANUFACTURING COMPANY, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

GAS-LAMP.

SPECIFICATION forming part of Letters Patent No. 736,681, dated August 18, 1903.

Application filed October 10, 1902. Serial No. 126,655. (No model.)

To all whom it may concern:

Be it known that I, TOM BRABSON, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Gas-Lamps, of which the following is a specification.

My invention aims to provide certain improvements in incandescent gas-lamps, and especially in cluster-lamps—such as are commonly used for lighting stores, large halls, or the like—whereby the construction of a complete lamp is made very simple and cheap, whereby a better draft and a whiter light are secured than in such lamps as now commonly constructed, whereby ample protection is afforded against insects and against cross-drafts without substantially obstructing the passage of the hot gases of combustion, and whereby especially the entire lamp is given a most graceful and pleasing appearance without sacrificing its lighting qualities.

My invention also provides certain improvements in the controlling-valve of such a lamp, whereby a single tap is used for cutting off any desired number of individual burners.

My invention also provides certain improvements in individual incandescent burners and in other details, as hereinafter specified.

Referring to the accompanying drawings, illustrating a lamp embodying my invention, Figure 1 is a side elevation of the complete lamp. Fig. 2 is a longitudinal section of the same, showing the burner and supply-pipe in elevation. Fig. 3 is a longitudinal section of the burner and controlling-valve. Fig. 4 is a side elevation of the complete burner, showing certain parts in section.

In cluster gas-lamps as commonly constructed the most ugly and complicated constructions are in use for disposing of the hot air discharged from the lamp without exposing the lamp to the danger of being choked by insects flying thereinto and of being caused to fluctuate by reason of drafts of air blowing across the top of the globe, which devices usually interfere with the provision of a suitable shade for reflecting the light downward, so that the latter is omitted entirely or is arranged in a manner to have but

little useful effect and to further increase the ugliness of the whole.

According to my invention I provide above the usual globe a simple cylindrical screen, preferably of a diameter at least as great as that of the opening in the top of the globe and of a height sufficient to form a suitable draft, the column of air moving directly upward without substantial obstruction in the cylindrical screen. This screen also furnishes quite sufficient protection against cross-drafts, at least for indoor use or for use in any comparatively sheltered place. The screen is preferably perforated to admit the outside air directly to the column of hot air to gradually cool the rising column and to supply oxygen for the consumption of the carbon of the gas, which consumption continues for some distance above the lamp. This reduces the amount of smoke issuing from the lamp. By reason of the perforations in the screen I am also enabled to place the shade or bell which comes above the same quite low down toward the upper edge of the screen. The shade referred to is placed a short distance above the screen, sufficient only to permit free egress of the rising column of air within the screen, and serves not only to prevent discoloration of the ceiling by the rising column of slightly smoky air, but also acts to reflect downward substantially all the light thrown upward by the burner—a feature which is generally lacking in lamps at present in use. The globe may be of any suitable light-transmitting material, such as glass or porcelain. The screen is preferably of sheet metal. The shade is of suitable light-reflecting material of which ordinary lamp-shades are made.

An important feature in my improved lamp is a serial cut-out valve—that is to say, a valve which cuts off gas in succession from the several branches leading from the main supply-pipe as the valve is moved continuously in one direction. The burner is preferably formed also with a dirt-receptacle below the valve for preventing the same or any other parts of the burner from becoming clogged with the dirt which is collected from the passing current of gas.

Another novel feature of the invention is

in means for closing the space which ordinarily exists between each of the individual Bunsen tubes of the burner and the lower edge of the corresponding mantle, these means
 5 being preferably a part of a cap on the tube and adapted to inclose the lower edge of the mantle.

Referring now to the embodiment illustrated in the accompanying drawings, A is a
 10 main supply-pipe leading down to and supporting a cluster B, consisting of four individual burners. The burners are located substantially in the center of a globe C, of glass, porcelain, or the like, which is of such size as
 15 to provide ample space for the passage of the necessary quantity of air therethrough. Surrounding the upper opening D of the globe is a cylindrical screen E, of metal, perforated in any suitable ornamental pattern, as shown,
 20 and extending upward a distance depending upon the size of the burner and the pressure of gas used. At a suitable distance above the screen E to permit the easy discharge of the hot air arising through the screen is a shade
 25 F, preferably of any suitable light-reflecting material, such as glazed ware. The screen and shade are preferably supported from the main supply-pipe A, the former by resting directly on the globe C and the latter by
 30 means of a collar G, secured directly on the pipe. In order to steady the screen E and to support the same when the globe is withdrawn, there is preferably another collar H on the pipe, which may be, as shown, a union connecting two separate sections of the pipe and
 35 which is situated a short distance below the normal position of a hub J, sliding on the pipe, and having two or more arms connected at their outer ends to the screen E. In order
 40 to simplify the manufacture of the screen and to make a more ornamental screen without excessive cost, it is preferably formed in three parts—a central body E' of truly cylindrical shape, as described, and upper and lower
 45 flaring portions E², joined to the ends of the body portion E' and formed in any desired ornamental design. The globe may be supported in any desired manner, being shown as supported at its bottom edge by arms K,
 50 projecting outward from the burner, and between which there is space for the admission of ample air. The lower portion of the burner preferably extends below the globe and is surrounded by an ornamental cap L of any
 55 suitable design.

M is a cock controlling the supply of gas to the burner and preferably extends downward through the center of the cap, completing the symmetrical proportions of the whole
 60 lamp.

The shade F is preferably adjustable, the collar G being secured at any desired point on the supply-pipe by means of a set-screw, as shown. By reason of this construction the
 65 outlet for the hot gases between the screen and the shade may be made larger or smaller, as desired, or the position of the shade to

distribute the light reflected from it may be varied.

In lamps for indoor use it is desirable to
 70 make as short a lamp as possible, because the head-room available is sometimes very little. My improved lamp by reason of the perforated screen employed may extend only a short distance above the top of the burner,
 75 and the shade F not only prevents discoloration of the ceiling by the hot air rising, but acts to reflect the light thrown directly upward and which is lost in cluster-lamps of ordinary construction. A perfect draft is obtained, so
 80 as to avoid smoke and to secure a white light. The main supply-pipe, being inclosed and subjected to the heat from the burner, supplies partially-heated gas to the burner, which improves the light. The perforated screen
 85 is ample protection against cross-drafts and against insects flying into the lamp in the majority of situations. The screen may fit down closely upon the globe, so as to prevent ingress of any substantial quantity of air at
 90 this point, which air would cause the light to fluctuate. The assembled lamp is made of most graceful and pleasing shape without any sacrifice of utility.

I also provide an improvement which makes
 95 it possible to reduce the number of individual burners in use, so that, for example, at night a very low light can be maintained, and I do this without the addition of any mechanism other than that usually found in
 100 lamps in which all the burners must be in use. For this purpose the main supply-pipe is provided with a plurality of branches to the individual burners, and a single valve is arranged to cut off gas from said branches in
 105 succession as it is moved continuously in one direction. As indicated in Figs. 3 and 4, the supply-pipe A carries at its lower end a member N, in which is formed a diaphragm O, serving as a main valve-seat and which has a
 110 series of apertures at different sides and at different elevations, to which are connected the several branches P P', &c., each of which branches supplies gas to one of the individual burners. Sliding within the member N is a
 115 valve comprising a plunger Q, having a long stem R, provided with a rapid screw-thread S at an intermediate portion and with a hand-wheel or the like at its lower end, as indicated. The passage in the member N is open
 120 at its lower end and leads into a dirt-receptacle T, attached to the lower end of the member N, in which the dirt which comes down the main pipe in the gas is collected, the lower portion of the bore of the valve
 125 member N being made larger than the plunger Q to permit the collection of this dirt when the valve is entirely open, as in ordinary use. The lower portion of the dirt-receptacle E is formed into a long stem
 130 interiorly screw-threaded to correspond with the threads S, and preferably a stuffing-box U is provided upon the lower end of such stem. The valve is easily accessible, it being only

necessary to remove the dirt-receptacle T, which carries with it the valve and valve-stem. The dirt within the receptacle may then be removed and the parts quickly restored to their operative position. When the dirt-receptacle and the connected parts are removed, the various passages adjacent to the valve may be easily inspected.

The improvement in individual burners is best illustrated in Fig. 4, where it is shown applied to the tubes of my improved cluster-burner. It may, however, obviously be applied to incandescent gas-burners of any other suitable type. In the embodiment shown the Bunsen tubes V are supplied with gas from the several branches P P', &c., from the main supply-pipe A, and the mantles W are supported from any suitable holder—such, for example, as the overhead holder X. The lower edge of the mantle surrounds the upper end of the tube, as usual. It is found in actual experience that the space which is necessarily left between the lower edge of the mantle and the outer periphery of the tube in order to permit the placing of the mantle over the end of the tube admits a considerable quantity of air, which dulls the light and sometimes causes a vibration or fluttering of the mantle. My invention provides means for closing said space, so as to prevent the admission of air at this point within the mantle. The means which I employ for this purpose form, preferably, part of a cap Y, placed over the upper end of the tube and preferably acting to hold the usual wire-netting Z in place on the tube, this cap, as shown, preferably inclosing the lower edge of the mantle by means of an upwardly-bent outer edge *a*, which is preferably made flaring to receive mantles of varying diameters and which preferably extends substantially to the level of the top of the tube, so that the mantle may shrink (as it usually does) without freeing itself from the cap. The cap should preferably stop at the level stated in order to avoid obscuring the light from the mantle. By the use of my improved cap the light is not interfered with, but is in many cases improved in brightness and steadiness, and also the necessity of fitting the mantle accurately to the head of the tube is avoided.

Though I have described with great particularity of detail a lamp embodying my invention, it will be understood that the invention is not limited to the particular embodiment illustrated and described. Various modifications of the same are possible to those skilled in the art without departure from the invention.

What I claim is—

1. In a gas-lamp the combination of a globe, a cylindrical screen above and supported directly upon said globe, a burner within said globe, and a supply-pipe extending through said screen and supporting said burner, globe

and screen, said screen having a diameter and a clear passage equal at least to that of the opening in the top of said globe, and being perforated to admit air from outside directly to the column of hot air ascending from said burner within said screen.

2. In a gas-lamp the combination of a globe, a cylindrical screen above and supported directly upon said globe, a burner within said globe, a supply-pipe extending through said screen and supporting said burner, globe and screen, said screen having a diameter and a clear passage equal at least to that of the opening in the top of said globe, and being perforated to admit air from outside directly to the column of hot air ascending from said burner within said screen, and a shade above said screen having its lower edge above the upper edge of said screen to permit free egress of the rising column of air therein.

3. In a gas-lamp the combination of a globe of light-transmitting material, an open cylindrical screen of metal above said globe, a burner within said globe, and a shade of light-reflecting material above said screen arranged to reflect downward and outside of said screen the light passing therethrough.

4. In a gas-lamp the combination of a globe, a cylindrical screen above said globe, a burner within said globe, and a supply-pipe extending through said screen and supporting said burner and globe, said screen being supported directly upon said globe.

5. In a burner for cluster gas-lamps, the combination of a main supply-pipe, a plurality of branches connected therefrom at longitudinally-separated points, and a valve comprising a plunger in said pipe and adapted to cut off gas from said branches in succession as it is moved continuously in one direction.

6. In a burner for cluster gas-lamps, the combination of a main supply-pipe, a plurality of branches connected therefrom at longitudinally-separated points, a valve comprising a plunger in said pipe and adapted to cut off gas from said branches in succession as it is moved continuously in one direction, and a valve-seat in said pipe against which said valve closes after cutting off all said branches.

7. In a burner for cluster gas-lamps, the combination of a main supply-pipe, a member connected thereto and carrying a valve-seat, a dirt-receptacle below said member and a valve arranged to reciprocate in said member, said member having a bore opening at its lower end into said dirt-receptacle.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

TOM BRABSON.

Witnesses:

THOMAS F. WALLACE,
FRED WHITE.