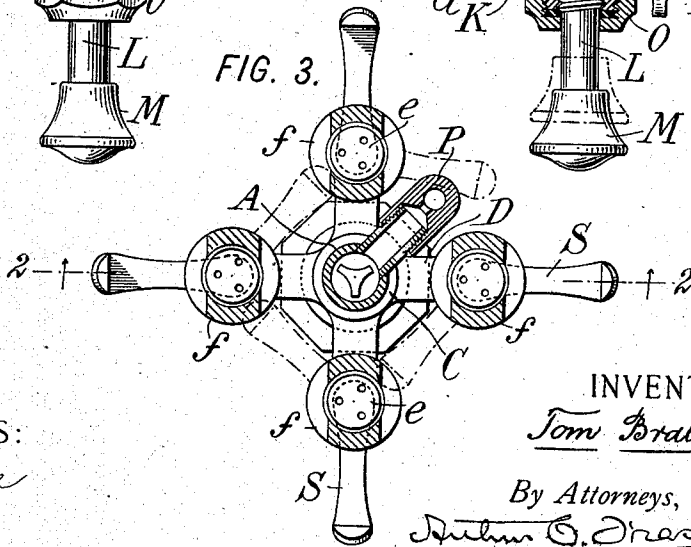
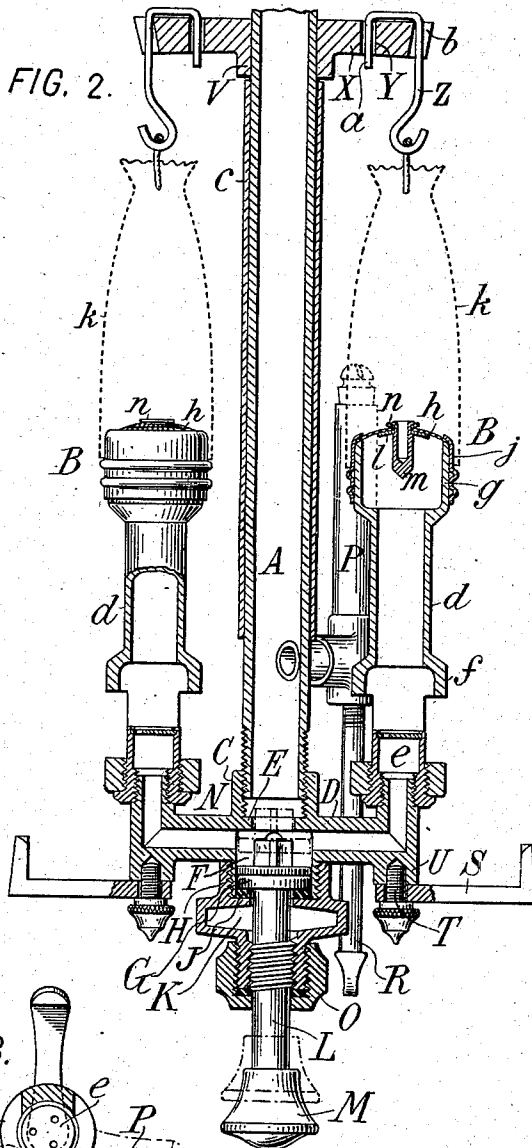
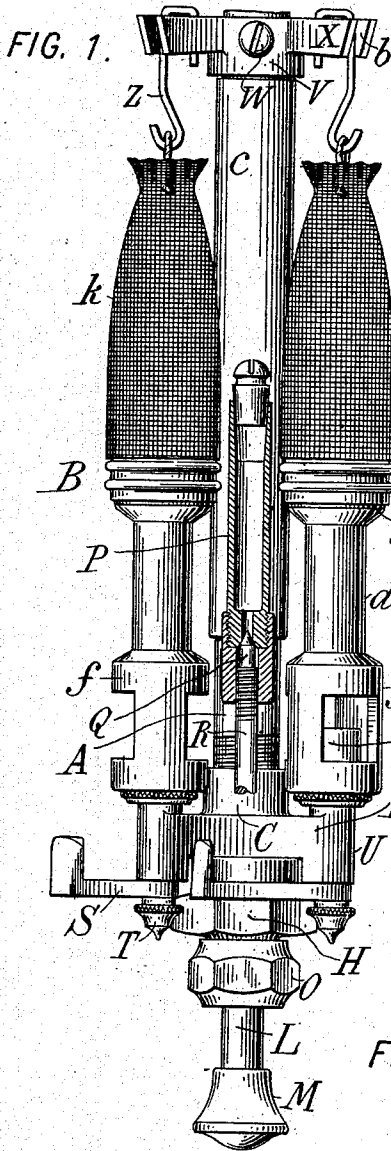


T. BRABSON.
GAS LAMP.

(Application filed Dec. 18, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

TOM BRABSON, OF BROOKLYN, NEW YORK, ASSIGNOR TO BRABSON LAMP AND MANUFACTURING COMPANY, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

GAS-LAMP.

SPECIFICATION forming part of Letters Patent No. 714,444, dated November 25, 1902.

Application filed December 18, 1901. Serial No. 86,380. (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 gas-lamps especially adapted to multiple-burner incandescent gas-lamps, whereby they are rendered compact and simple in construction and durable in operation, and the several parts are made convenient of access for inspection or removal, and whereby various other advantages in detail are secured, as hereinafter specified.

Referring to the accompanying drawings, illustrating an embodiment of my invention, Figure 1 shows the same in side elevation with the pilot-burner thereof in section. Fig. 2 is a vertical section on the line 2 2 of Fig. 3. Fig. 3 is a horizontal section approximately through the mixing or Bunsen tubes near their lower ends.

My improvements are illustrated as applied to a multiple burner, such as is commonly used in shops or other public places for giving a large quantity of light. In such places it is generally very desirable or even necessary to save head-room by making the entire lamp as short as possible. By a very compact arrangement of the supply-pipe and the individual burners and the operating parts I have succeeded in producing an extremely short lamp. According to the preferred arrangement the main supply-pipe A of my lamp is arranged centrally of a group—comprising in the present case four—of individual burners B. I preferably extend the main supply-pipe A downward from any suitable point of support and connect the individual burners therewith by branches radiating from its lower end, so that it does not extend below the lamp at all. The valve for cutting off or turning on the supply may be conveniently located immediately at the lower end of the supply-pipe and preferably has a short downwardly-extending operating-rod. As illustrated, the supply-pipe A is connected at its lower end—as, for example, by a screw

connection—with a hollow member C, having branches D preferably separated from each other, so as to avoid as much as possible any obstruction to the admission of air from below. A horizontal seat is formed at the lower end of the supply-pipe, preferably by means of a diaphragm E, forming part of the member C and located above the passages in the branches D. The member C has also a short portion F extending downward below the branches D, so as to form a chamber for the valve G, so as to permit a direct and substantially unobstructed flow when the valve is open. To this chamber is connected a member H, having a horizontal valve-seat upon which is a packing-ring J of any suitable material covering the joint between the members Hand C and having also a chamber K, forming a dirt-receptacle, below said valve-seat. The operating-rod L screws through the lower portion of said member H, and said member is provided with wrench-faces, Fig. 1, for screwing it tightly in place. A button M or handle of any sort is attached to the end of the operating-rod L, and by turning this the valve is moved upward, so that its upper face bears against the seat E to cut off the supply or is moved downward into the chamber F to admit a full supply to the branches and so that its lower face bears against the packing-ring J to prevent escape of gas along the rod. Under the intense heat to which the central supply-pipe is exposed there is sometimes a considerable formation of scale within the pipe, which drops into the valves as previously constructed. There is also a certain amount of solid matter in the gas. These and possibly other foreign matters often clog the valves of supply-pipes after the lamps have been in use for a time. In connection with my improved valve I use a spider N, which moves in the port of the valve as the latter is operated, as indicated by the dotted lines in Fig. 2. When the valve is operated in the manner explained, the spider end not only reciprocates in the port, but rotates therein also, and the sharp edges thereof keep the port entirely clear of dirt. Any foreign matter passing down into the branches D or the chambers F and K can be quickly re-

moved by unscrewing the member H. This construction is therefore not only compact and simple and therefore cheap, but is most convenient in the keeping of the lamp in good order. I preferably also screw a nut O on the tubular extension of the nut H. A washer O' prevents leakage in intermediate positions. It is to be noted also that with the valve arranged at a point considerably below the mantles and directly in the path of the cool air which is admitted to the lamp I avoid excessive heating of the valve, which has been a frequent cause of injury in previous constructions in which the valve is located higher up in the supply-pipe and nearer to the mantles.

I preferably use a continually-lighted pilot-jet P, comprising a vertically-arranged pipe connected in any suitable way with the supply-pipe A, and I add to the convenience of control of my burner by providing the valve Q thereof with an operating-rod R, extending downward, as indicated in Fig. 2, to a point below the burner, so as to be convenient of operation at all times. I have also improved the means of holding the shade or globe which surrounds the burner by the use of shade-holders S, which are movably connected to the several branches D, whereby they can be moved outward to support the shade or inward to pass within the opening of the shade as it is put in place or removed. These shade-holders are preferably single arms having upward extensions at their outer ends and pivoted at their inner ends on the under sides of the several branches D by means of a pivot T, screwing into a boss U, formed on the under side of the branch for this purpose. This forms a very simple connection, and the parts are so proportioned that the holders S when swung horizontally inward occupy the very compact position shown in dotted lines in Fig. 3 and when swung outward extend outside of the shade, so as to support the same, as illustrated in Fig. 2. As indicated in Fig. 3, the lower part of the burner when in actual use with the shade in place comprises only a series of narrow arms radiating from the center and presenting the least possible resistance to the admission of air from below. The supporting of the mantle is also accomplished in a very simple and durable manner in my improved lamp. For this purpose I preferably provide a support attached directly to the central downwardly-extending supply-pipe at a point above the mantles and adjustable in height on such pipe. From this support I suspend hooks, which have their lower ends adapted to engage the mantles. The mantle-support V is preferably a casting fitting loosely over the pipe and adjusted and held in position by means of a set-screw W and having arms X extending toward the several mantles. Each of these arms has a vertical aperture Y, and each of the hooks Z has a bend *a* at its upper end adapted to pass

downward into the aperture Y. Preferably also each arm X has a radial notch *b* in its end, in which the shank of the hook Z rests so as to prevent lateral movement thereof. The heat to which such a mantle-holder is subjected and the expansion and contraction of the metal often result in a loosening of the connection of the holder with the supply-pipe, and after the lamp has been in use for some time the mantle-holder slips on the pipe and breaks the mantles. In order to certainly avoid this trouble, I provide in connection with mantle-supports of this general type a fixed stop on the pipe whose upper edge is in contact with or immediately below the mantle-support and which, in case of the accidental loosening of the support, prevents the same from falling far enough to injure the mantles. This fixed stop may be very simply made in the form of a sleeve *c*, whose lower edge rests on the horizontal branch of the pilot-burner or on any other fixed point of the burner and whose upper edge is close to the lower edge of the mantle-support V. I also provide certain improvements in detail in the individual mixing-tubes of the several burners, whereby their construction is cheapened and strengthened and the operation improved. To stand the intense heat which occurs, these tubes must be made of considerable solidity, and I make them, preferably, of a single tube *d*, of cast brass, in the lower end of which is fitted a gas-nozzle *e*, which in turn is connected to the upwardly-extending portion of the branch D. The lower end *f* of the tube which constitutes the chamber in which the nozzle *e* is placed is somewhat enlarged, and openings at the side for admission of air are formed by a straight cut directly across the side of the tube, as indicated at the left of Fig. 1. One of these cuts on each side provides space for the admission of ample air. The upper end of the tube is enlarged, as shown at *g*, and a sheet of wire-gauze or the like *h* is held on the top thereof by means of a cap *j*. In order to press the flame outward against the mantle *k*, I preferably use a spreader, which is connected to the center of the sheet of gauze *h* and extends downwardly therefrom, so as to spread the combustible mixture outward. The spreader is durably and cheaply constructed and connected to the gauze in the following manner: A plate *l* of the desired diameter is pressed against the under side of the gauze by means of a shoulder on a tube *m*, the upper end of which tube is extended through the gauze and swaged outward at its outer end, preferably over a washer *n*.

Though I have described with great particularity of detail a lamp embodying my invention, yet it is to be understood that my invention is not limited to the specific device shown and described.

Various modifications in the details and in the arrangement and combination of parts

may be made without departure from the invention.

What I claim is—

1. In an incandescent gas-burner, the combination with a downwardly-extending supply-pipe, of branches connected to the lower part of said supply-pipe, a mantle-support attached to the upper part of said pipe, and a fixed stop held on said pipe with its upper edge immediately below the mantle-support whereby to prevent said support from falling, said fixed stop comprising a sleeve surrounding said supply-pipe and supported on one of said branches.

2. In an incandescent gas-burner, the combination with a downwardly-extending supply-pipe, of branches connected to the lower part of said supply-pipe, a mantle-support fitting around the upper part of said pipe and adjustable in height thereon, and a fixed stop held on said pipe with its upper edge immediately below the mantle-support whereby to prevent said support from falling.

3. In an incandescent gas-burner, the combination with a downwardly-extending supply-pipe, of branches connected to the lower part of said supply-pipe, a mantle-support on the upper part of said pipe, and a stop fixed on said pipe at a point thereof above said branches and in position to prevent said support from falling, said stop comprising a sleeve surrounding said supply-pipe and supported on one of said branches.

4. In an incandescent gas-burner, the combination with a mantle-support V having an arm X extending over the mantle and having a vertical aperture Y, of a hook Z having its lower end adapted to engage a mantle and

having a bent portion *a* at its upper end passing downward into said aperture.

5. In a multiple incandescent gas-burner, the combination with a group of burners, of a central main supply-pipe, a mantle-support V attached directly to said pipe and comprising arms X extending over said burners and having each a vertical aperture Y, and hooks Z having their lower ends adapted to engage a mantle and having bends *a* at their upper ends adapted to pass downward into said apertures.

6. In an incandescent gas-burner, the combination with a mantle-support V having an arm X extending over the mantle, having a vertical aperture Y and having a radial notch *b* in its end, of a hook Z having its lower end adapted to engage a mantle and having a bent portion *a* at its upper end passing downward into said aperture, and a vertical shank lying in said notch.

7. In a gas-burner, a supply-pipe, a valve at the lower end of said supply-pipe, a valve-seat above said valve through which gas is admitted from said supply-pipe, a valve-seat below said valve and against which the lower face of said valve bears when open to avoid escape of gas, and a chamber K below the lower of said seats adapted to form a dirt-receptacle and to keep said valve free.

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

TOM BRABSON.

Witnesses:

THOMAS F. WALLACE,
FRED WHITE.