

No. 647,458.

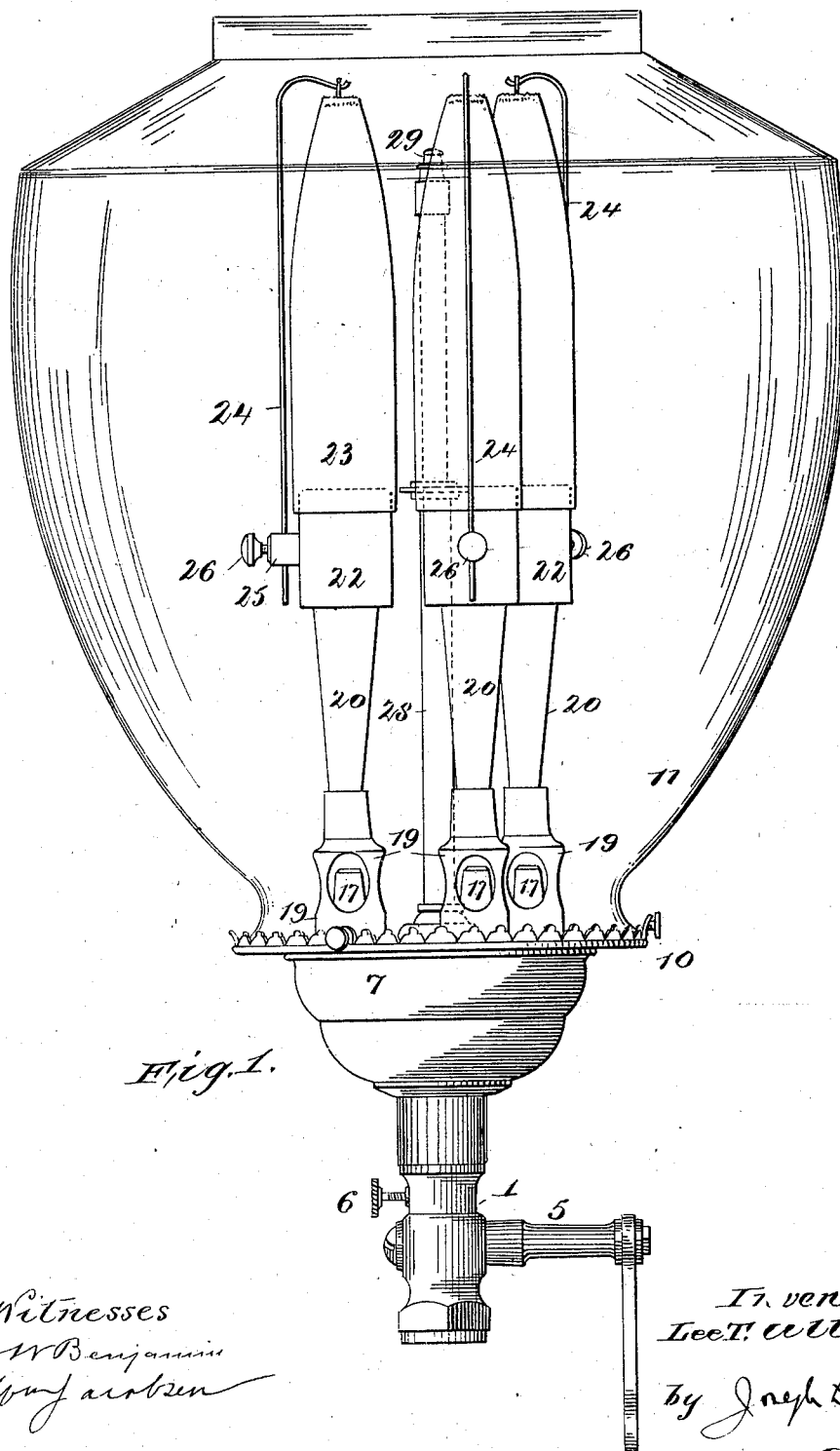
Patented Apr. 17, 1900.

L. T. ALTON.
INCANDESCENT GAS BURNER.

(Application filed Nov. 5, 1898.)

(No Model.)

2 Sheets—Sheet 1.



UNITED STATES PATENT OFFICE.

LEE T. ALTON, OF NEW YORK, N. Y.

INCANDESCENT GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 647,458, dated April 17, 1900.

Application filed November 5, 1898. Serial No. 695,564. (No model.)

To all whom it may concern:

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

My invention relates to the class of lamps in which a refractory mantle or hood is made incandescent by a gas-flame produced by the well-known Bunsen burners.

One of the objects of my invention is to provide a gas chamber or accumulator between the gas-supply pipe and the burner and to so arrange the parts that the gas can be shut off or controlled at the burner independent of a cock in the gas-supply.

Another object of my invention is to connect a plurality of gas-burners and mantles with a single gas-supply pipe and to arrange such burners so that the flow of gas through each one can be shut off, whereby if one mantle becomes useless the gas-flame for that mantle can be extinguished, while the others continue to burn.

Another object of the invention is to provide an incandescent lamp of the character described with an auxiliary burner adapted to maintain a flame in proximity to the Bunsen burners, so as to ignite the flames at said burners when the gas is turned on to supply them.

The invention consists in the novel details of improvement and the combinations of parts that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part hereof, wherein—

Figure 1 is a side elevation of a lamp embodying my improvements. Fig. 2 is a vertical section thereof, enlarged, parts being in section; and Fig. 3 is a detail sectional view showing the gas-cocks.

Similar numerals of reference indicate corresponding parts in the several views.

In the accompanying drawings, 1 indicates a fixture for attachment to a gas-supply pipe or tube (not shown) and which consists of a coupling having a passage-way 2, shown threaded at 3 for attachment to a gas-pipe or

other suitable source of supply and having a bore or by-pass 4 leading to the passage-way 2.

5 is a cock or stem, shown journaled in a bore in fixture 1 in well-known manner and provided with a pass or bore 5^a to regulate the passage of gas through passage-way 2. The cock 5 also has a bore 5^b, located at an angle to pass or bore 5^a and adapted to register with bore 4 to permit the passage of gas therethrough. (See Fig. 3.) The stem 5 passes across bore 4, so as to close the same. The arrangement is such that when the cock or stem 5 is in the position shown in Fig. 2 gas can pass through way 2, but is shut off from bore 4, and when cock 5 is in the position shown in Fig. 3 gas will be shut off from way 2, but can pass through bore 4.

6 is a valve, shown in the form of a screw threaded in a tapped hole in fixture 1 and provided with a tapered end to enter a corresponding socket 6^a in the wall of bore 4, whereby said screw may be adjusted to regulate the passage of gas through bore 4.

To the upper end of fixture 1 is secured gas-tight a shell 7, having a plate or cover 8, whereby a gas chamber or accumulator 9 is formed. The shell 7 is shown provided with an inwardly-extending flange 7^a, to which a plate 8 is attached gas-tight. The plate or cover 8 is shown provided with means, as 10, to hold a globe 11 and with apertures 12 for the passage of air to said globe.

Upon the plate or cover 8 are mounted the gas-burners, which are each arranged as follows: 13 is a plug having a bore 13^a, a flange 14, and external screw-threads 15, which plug is located in an aperture 8^a in plate or cover 8, the flange 14 resting against the bottom of said plate. At 16 is a check-stem having internal threads to mesh with the threads 15 on plug 13, said body having a bore that is conical at 16^a and tubular at 16^b. At its lower part the body 16 has a polygonal exterior at 16^c to receive a wrench to screw it upon plug 13, and above said part 16^c said body has screw-threads 16^d to receive corresponding threads in a cap 17, which cap has a bore of varied diameter to receive the two outer portions of body 16. In the upper end of the bore of cap 17 is a perforated plate 18, which is adapted to rest against the outer end of

body 16, the perforations in plate 18 being outside of the end of cap 16. Thus when cap 17 is screwed down to bring plate 18 in contact with cap 16 the flow of gas through parts 5 13 and 16 will be shut off, and when said plate is raised from said cap gas can pass through the perforations in said plate. By adjusting plate 18 relatively to cap 16 the amount of gas permitted to pass can be regulated, and this gives a regulation of gas as to each burner independently of cock 5. To the cap 17 is attached a dome 19, having one or more openings 19^a for the admission of air, so that gas and air can commingle in said hood. 15

20^b is a prolongation of the dome-shaped chamber and is formed as an annular nipple to receive the end of the tube 20.

20 is a conical tube having its smaller end 20^a inserted a short distance into the dome-nipple 20^b, the lower edge of the tube forming a shoulder against which the gas and air strikes, is deflected, and caused to more thoroughly commingle before being drawn up through the conical tube to the burner. Near its upper end the tube 20 has an external flange 21, and 22 is a cap fitting over the end of tube 20 and encircling flange 21, by which said sleeve is steadied and guided. The upper end of the cap 22 is perforated or provided with a wire flange forming the burner for a blue flame, as described in my application filed August 5, 1897, Serial No. 647,145. 30

The parts 16, 17, 18, 19, 20, and 22 constitute a burner for producing a sootless or blue flame, which burner has means for independently regulating the passage of gas. 23 is a refractory mantle adapted to produce an incandescent light, and the mantle is shown supported from the cap 22 by a rod 24, from which said mantle is hung, the mantle surrounding the cap 22, the rod 24 passing into a stud 25, carried by the cap 22, and having a screw 26 to engage and hold said rod. 40

There may be any desired number of burners connected with the plate or cover 8 and communicating with chamber 9 and arranged in a cluster, as shown. 45

To enable all the burners to be lighted by the turning on of cock 5, I connect a tube 27 with bore 4 in fixture 1 and pass said tube through chamber 9 and secure it to a bore 27^a in plate or tube 8. To bore 27^a is also secured a tube 28, that carries a tip or burner 29 in proximity to the caps or burners 22. Around the tube 28, below the tip 29, I wind a non-conductor of heat, such as asbestos, to keep the heat from the Bunsen burners from injuring tube 28. 55

It will be understood that when the parts are arranged as shown and the lights are not

burning the cock 5 will be in the position shown in Fig. 3, closing the way 2 and opening bore 4 to the passage of gas, whereupon a flame can be maintained at burner 29. To light the lamp, cock 5 is turned to the position shown in Fig. 2 to allow gas to pass to the Bunsen burners, which gas will be lighted by the flame at burner 29, and as cock 5 shuts off bore 4 the flame at burner 29 will be extinguished; but as soon as cock 5 is again turned to shut off the supply of gas to the Bunsen burners the passage to burner 29 will be opened, whereupon the flame will be ignited there before the flames at the Bunsen burners are extinguished. 65 70 75

The chamber 9 supplies all the Bunsen burners with gas, and said chamber acts as a gas-accumulator for all said burners. If one of the mantles is destroyed, the gas-supply to that mantle can be shut off at the valve or cock 16 17 18, thus allowing the other burners to continue in use. 80

Having described my invention, I claim—

1. In an incandescent gas-burner the combination with a gas-fixture having a longitudinal passage therethrough, a smaller or secondary passage also inclosed within said fixture, a valve for closing said secondary passage, a shell provided with an inwardly-projecting flange mounted above said fixture and passages, a plate resting on said inwardly-projecting flange, said shell and plate forming a gas-tight chamber; a plurality of burners secured to said plate and communicating with said chamber, means for controlling the supply of gas to each burner independent of the other burners; a pipe passing through said gas-chamber and connected with the secondary passage in said gas-fixture, an auxiliary burner mounted on the upper end of said pipe in proximity to the aforementioned burners, and a key, provided with ports cut at an angle to each other, mounted in the said gas-fixture for alternately admitting gas, from the source of supply, to said main burners and auxiliary burner, substantially as described. 85 90 95 100 105

2. The combination of a gas-fixture having a cock, a gas-tight shell connected therewith, a plate or cover thereon, gas-burners connected with said plate or cover, means for securing a globe to said plate, and apertures cut in said plate for admitting air to the globe, substantially as described. 110 115

Signed at the city, county, and State of New York this 3d day of November, 1898.

LEE T. ALTON.

Witnesses:

WM. JACOBSEN,
S. B. KUHN.