

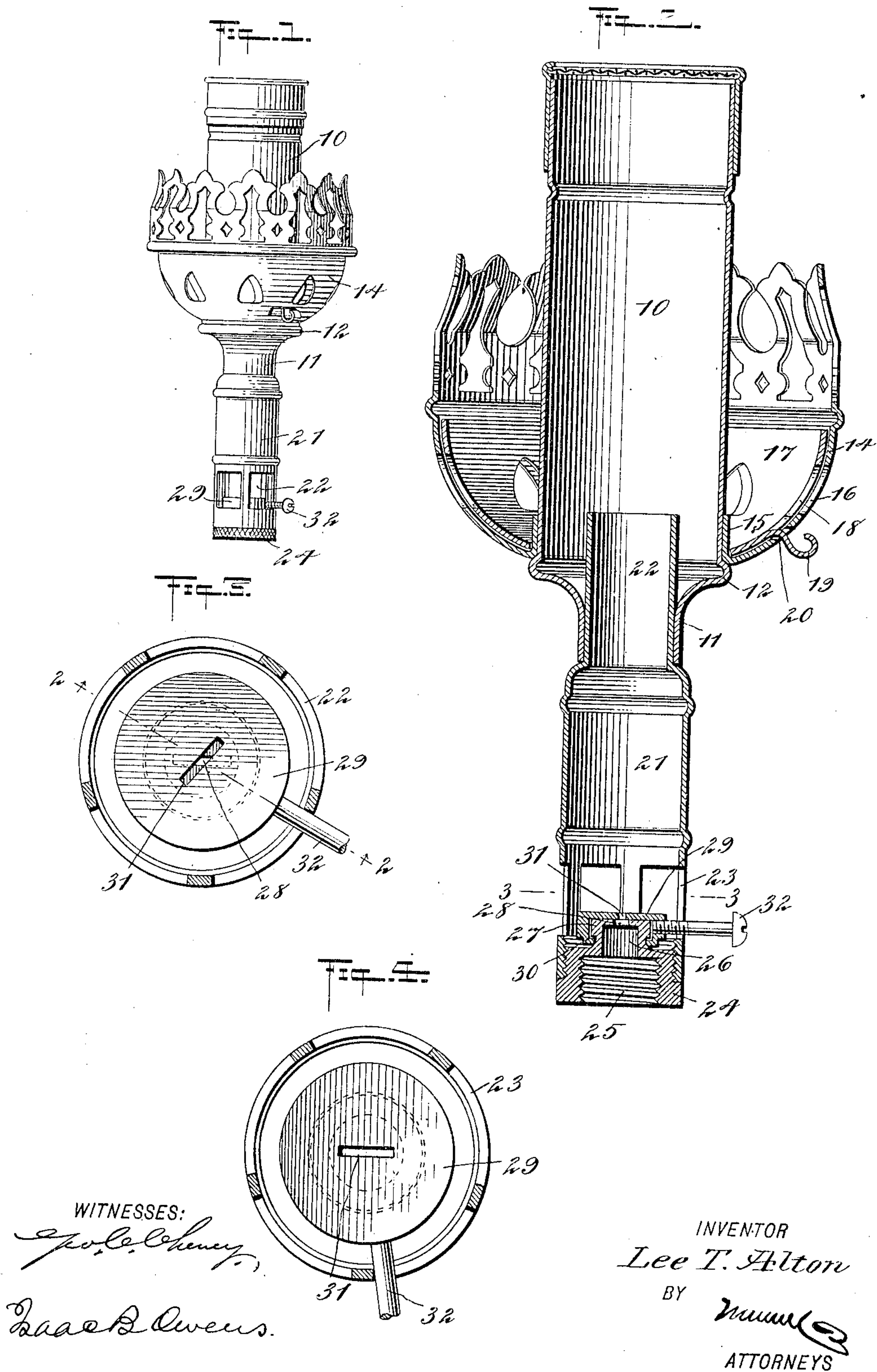
No. 830,758.

PATENTED SEPT. 11, 1906.

L. T. ALTON.

GAS BURNER.

APPLICATION FILED SEPT. 14, 1905.



UNITED STATES PATENT OFFICE.

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

GAS-BURNER.

No. 830,758.

Specification of Letters Patent.

Patented Sept. 11, 1906.

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To all whom it may concern:

Be it known that I, LEE T. ALTON, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Gas-Burner, of which the following is a full, clear, and exact description.

The invention relates especially to a Bunsen gas-burner intended for use in connection with Welsbach or incandescent mantles for illuminating purposes; but the invention embodies features which are not limited to this use, as will fully appear hereinafter.

Briefly stated, the principal objects of my invention are to so construct the globe-holder or "ornamented" part of the burner that it may be utilized to control the air admitted into the chimney to supply an excess of oxygen to the burning gases in the vicinity of the mantle and to improve the means for regulating the gas-supply, at the same time so constructing these latter devices that, if desired, they may be used independently of the Bunsen tube and other parts associated with the incandescent mantle.

My invention involves various other features of major or minor importance, and all will be fully set forth hereinafter and particularly pointed out in the claims.

Reference is had to the accompanying drawings, which illustrate, as an example, the preferred embodiment of my invention, and in which—

Figure 1 is a side elevation of the burner complete. Fig. 2 is an enlarged vertical section on the line 2 2 of Fig. 3. Fig. 3 is an enlarged sectional plan on the line 3 3 of Fig. 2, showing the gas-check in one position; and Fig. 4 is a similar view excepting that the gas-check is in a second position.

Referring first to Figs. 1 to 4, 10 indicates the mixing tube or chamber, which is formed with a reduced lower end 11, immediately above which is a bead 12, which is preferably spun out from the material of which the tube is formed. 14 indicates the globe-holder or so-called "ornamented" part of the burner, which is formed of sheet metal, as shown, and tapers from its upper part downward to the lower portion of the mixing-tube, at which point the globe-holder 14 is provided with an inturned annular flange or boss 15. Said flange or boss snugly encircles the mixing-tube, and the globe-holder bears on the bead 12 to be sustained thereby. Said globe-

holder in addition to supporting the globe or chimney of the burner is formed with openings 16 in its sides, which serve to admit air into the chimney, so that this air mingles with the burning gases surrounding the mantle and increases the combustion at this point. The amount of air passing through the orifices 16 may be regulated by a shutter 17, which fits loosely within the globe-holder and is shaped in conformity thereto. Said shutter is provided with openings 17, which register with the openings 16, and by turning the shutter the area of the air-openings may be increased or diminished at will. Struck up from the shutter 17 is a finger-piece 19, which is projected through a slot 20 in the globe-holder and which facilitates adjusting the shutter. This shutter enables the use of air-hole chimneys to be dispensed with, since by this means air may be admitted into the chimney, and, further, it enables this air to be regulated in volume to suit the conditions under which the burner is operating, thus making it possible to secure the best possible effects. It is further pointed out that by locating the globe-holder so that it surrounds the mixing-tube in the manner described a neat and attractive burner is produced, and I avoid the appearance of unnecessary elongation, which is common in burners heretofore devised.

The Bunsen tube 21 has a reduced upper portion 22, which is fitted snugly in the reduced lower end 11 of the mixing-tube 10. The lower part of the Bunsen tube is provided with air-openings 23, which admit air to mix with the gas forming a combustible mixture of the correct proportions. In the lower end of the Bunsen tube 21 is fitted a gas-check 24, which is in the form of a plug screwed into the Bunsen tube and provided with an internally-threaded orifice 25 for the reception of the gas-pipe or other fixture in connection with which the burner may be employed. Said check 24 has a raised portion or dome 26 on its upper side within the Bunsen tube, and said raised portion or dome is provided with an exterior annular shoulder 27. Located centrally in the top of the dome is a gas-slot 28. Fitting in said dome is a cap 29, the lower edges of which are spun inward, as indicated at 30, so as to loosely embrace the flange 27, thus securely holding the cap in place, but permitting it to turn freely on the check. 31 indicates a slot in the cap 29. This slot is of the same size and form as the slot 28, and by turning the cap

the two slots may be made to register exactly. At this time a maximum flow of gas will be permitted through the check. By further movement of the cap on the check the two slots will be gradually moved out of registry until the slots lie in a position at or approaching right angles, as shown in Fig. 3; when a minimum supply of gas will be permitted. Fig. 4 shows the cap adjusted to cause the slots to register and admit a maximum gas-flow. To facilitate the adjustment of the cap 29, a pin or screw 32 is secured to the same and projected outward through one of the air-openings 23. This enables the cap to be readily moved to the adjustment desired, and by this means the operator may easily change the gas-supply until the proportions of air and gas are exactly correct. If desired, the screw 32 may also serve the purpose of a set-screw, and this is effected by permitting the screw to pass completely through the walls of the cap 29, so that after the proper or desired adjustment is reached the screw may be tightened up against the dome 26, thus securely locking the cap in place.

Having thus described the preferred form of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An incandescent gas-burner having a mixing-tube, a globe-holder, the upper part of which is open and the lower part of which is tapered down to the mixing-tube, and provided with an annular flange snugly embracing the mixing-tube, the tapered lower part of the globe-holder having an air-opening therein, and an annular shutter lying within and engaging the inner walls of the lower part of the globe-holder, said air-shutter surrounding said annular flange and commanding the air-opening in the lower part of the globe-holder.

2. An incandescent gas-burner having a mixing-tube, a globe-holder, the upper part of which is open and the lower part of which is tapered down to the mixing-tube, and provided with an annular flange snugly embracing the mixing-tube, the tapered lower part of the globe-holder having an air-opening therein, and an annular shutter lying within and engaging the inner walls of the lower part of the globe-holder, said air-shutter surrounding said annular flange and commanding the air-opening in the lower part of the

globe-holder, the lower part of the globe-holder also having a slot therein, and the air-shutter having a finger-piece attached thereto and projecting outward through the slot to facilitate the manipulation of the air-shutter.

3. An incandescent gas-burner having a Bunsen tube, a mixing-tube with a contracted lower portion mounted on the upper part of the Bunsen tube, said mixing-tube having an annular bead at its lower portion, a globe-holder open at its upper part and having a tapered lower portion with an annular upwardly-projecting flange snugly surrounding the lower part of the mixing-tube and bearing on said annular bead thereof, the lower portion of the globe-holder having an air-opening therein, and an annular air-shutter located within and engaging the inner walls of the lower portion of the globe-holder and surrounding the annular flange thereof, said shutter commanding the air-opening in the globe-holder.

4. A gas-burner having a Bunsen tube provided with an air-opening in its side, a gas-check fastened in the Bunsen tube below the opening and having within the Bunsen tube a dome provided in its top with a gas-opening, and in its side with an annular shoulder projecting outward from the dome, and a cap mounted to turn on the dome of the gas-check and having in its top a gas-opening coacting with the gas-opening in the check, the lower portion of the cap being turned inward to form an annular flange bearing under the annular shoulder of the check and engaging the same to hold the cap in place.

5. A gas-burner having a check with a dome provided at its top with an air-opening, and at its side with an annular shutter projecting outward from the side of the dome, and a turning cap mounted on the dome and having in its top a gas-opening coacting with the gas-opening of the dome, the lower edges of the cap being turned inward to form an annular flange bearing under the shoulder of the check and retaining the cap in position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEE T. ALTON.

Witnesses:

ISAAC B. OWENS,
JNO. M. RITTER.