E. MEYER-ZIMMERLI.

GAS BURNER.

APPLICATION FILED JAN. 8, 1910.

957,358.

Patented May 10, 1910.

Fig. 1.

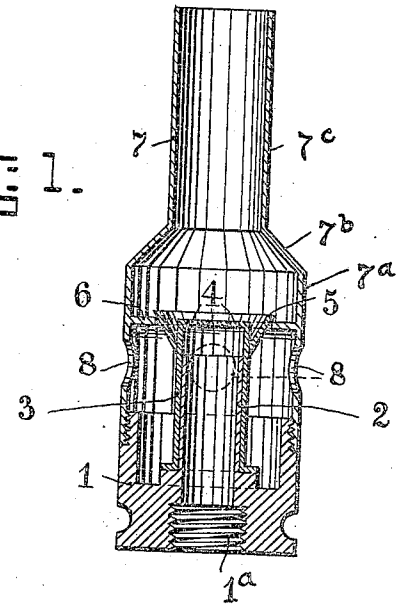
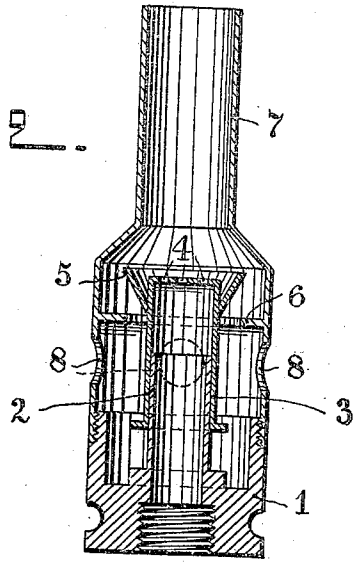


Fig. 2.



Witnesses.

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GAS-BURNER.

957,358. Specification of Letters Patent. Patented May 10, 1910.

Application filed January 8, 1910. Serial No. 537,070.

To all whom it may concern:

Be it known that I, ERNST MEYER-ZIMMERLI, a citizen of the Swiss Confederation, residing at Zurich, in Switzerland, have invented a certain new and useful Improvement in Gas-Burners, of which the following is a specification.

This invention relates to improved means for securing uniform or approximately uniform gas-consumption and lighting power by automatically regulating the mixing proportions of illuminating gas and air, according to the pressure of the gas. A device used in Bunsen burners for this purpose consists of a slidable gas-nozzle placed in a mixing-tube of non-uniform diameter, so that the position of the nozzle, and consequently the passage available for air, vary according to the gas-pressure.

The present invention consists in providing the slidable nozzle with a collar, cap or the like, co-acting with an inward projection of the mixing tube above the air-inlet, as will be described hereinafter with reference to the accompanying drawings, in which—

Figures 1 and 2 are vertical sections of a construction embodying the improvement, the nozzle being shown in two different positions.

In the drawing, 1 represents the burner-head, the bore of which is screw-threaded, as at 1^a, for engagement with the gas-pipe. A tube 2 extending upward from the threaded bore carries a slidable sleeve 3. The latter has a perforated cover 4 at the top, and carries a collar 5, in the form of an inverted, truncated cone. When the gas is cut off from the burner the sleeve 3 occupies the position in which it is shown in Fig. 1. In this position the collar 5 is close to an annular flange 6 projecting inward from the wall of the mixing tube 7, above the air-holes 8. The tube 7 is screwed to the burner-head 1. When the gas is turned on, the pressure lifts the sleeve 3 (Fig. 2) and the collar 5 is removed from the flange 6, to make a large passage for air. For some distance above the flange 6 the diameter of the tube 7 is uniform as at 7^a; then the tube contracts, as at 7^b, and then again becomes uniform as at 7^c. As the sleeve 3 and collar 5 approach the inwardly sloping part 7^b of the tube-wall, the air passage becomes constricted again. In a central zone, between the flange 6 and the part 7^b, the passage remains constant. During the rise of the sleeve 3 there is, therefore first an increment of air-passage, then a period of constancy, and then a decrement. If the gas-pressure falls, and the sleeve descends, the changes of air-passage are reversed. The reduction of the air-passage, when the normal zone has been passed, is proportional to the reduction in the outflow of gas, due to falling pressure.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

In a Bunsen burner the combination with a gas inlet tube and an air inlet hood about said tube the said hood having a restricted passageway above the air inlet holes thereof, of a sliding sleeve on said gas inlet tube, a perforated cap to said sleeve and collar thereon adapted to co-act with the restricted passageway to form a variable air passage into the mixture chamber of the burner.

In witness whereof I have signed this specification in the presence of two witnesses.

ERNST MEYER-ZIMMERLI.

Witnesses:

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