M. JACOBS.

BUNSEN BURNER FOR INCANDESCENT GAS LAMPS.

APPLICATION FILED JAN. 7, 1908.

928,453. Patented July 20, 1909.

Fig. 1.

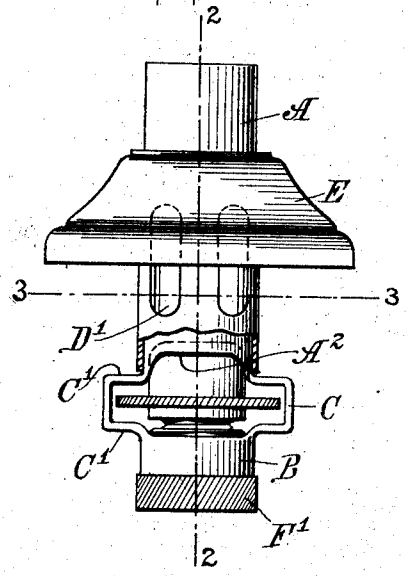


Fig. 2.

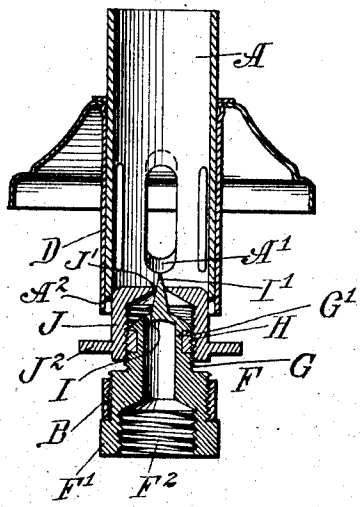


Fig. 3.

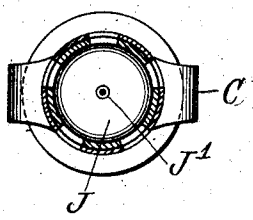


Fig. 4.

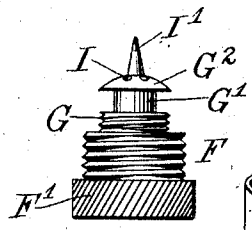
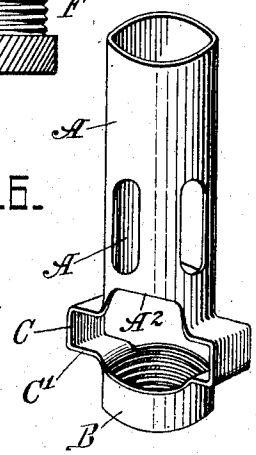


Fig. 5.



Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

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BUNSEN BURNER FOR INCANDESCENT GAS-LAMPS.

No. 928,453. Specification of Letters Patent. Patented July 20, 1909.

Application filed January 7, 1908. Serial No. 409,608.

To all whom it may concern:

Be it known that I, MICHEL JACOBS, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Bunsen Burners for Incandescent Gas-Lamps, of which the following is a specification.

My invention relates to Bunsen burners for incandescent gas lamps and has for its object to improve and simplify the construction thereof.

Other objects will appear from the annexed description and the features of novelty will be pointed out in the appended claim.

Reference is to be had to the accompanying drawings in which—

Figure 1 is an elevation partly in section of a burner constructed according to my invention. Fig. 2 is a section thereof on the line 2—2 of Fig. 1. Fig. 3 is a horizontal section on line 3—3 of Fig. 1. Fig. 4 is a detail view of a part of the needle valve. Fig. 5 is a perspective view of another part thereof, and Fig. 6 is a perspective view of the mixing tube.

A is the mixing tube which is connected with the customary burner in the usual way and is provided with air inlets A′. The mixing tube A is made integral with a screw-threaded collar B and with arms C which are bent so that the space between the vertical portions of said arms is greater than the diameter of the mixing tube, as clearly shown in Figs. 1, 3 and 6.

D is a regulating shutter capable of rotation on the mixing tube A and provided with openings D′ arranged to register with the air-inlets A′ of the mixing tube A for the purpose of regulating the amount of air which enters the said mixing tube. This shutter D is maintained in position by frictional contact with the tube A and the lower edge of said shutter extends below the lower end A^2 of the mixing tube, when the shutter is in operative position as shown in Fig. 1.

E is a protecting hood secured to the shutter over the openings D′ for the purpose of preventing the mixture in the tube A from becoming prematurely ignited by the gas flame.

A carrier F having a milled operating head F′ is arranged to screw into the collar B and has an internally screw threaded portion F^2 adapted for connection with the ordinary gas fixture. The said carrier F is further provided with a reduced screw threaded portion G and a smooth neck portion G′, which is smaller in diameter than the screw-threaded portion G. A packing ring H made of leather or similar material fits over this neck G′ and is externally screw-threaded to correspond to the screw-threaded portion G. This ring H is held in position on the neck G′ by the flange G^2 which also extends over the one end of the member F and is provided with apertures I and a centrally arranged needle valve I′. The washer is adjusted on the neck G′ and the flange G^2 is thereafter formed so as to hold the washer in place.

J is an adjustable cap or regulator which is arranged to screw over the ring H and the screw threaded portion G of the member F. This cap is provided in its top wall with a central opening J′, which is adapted to cooperate with the needle-valve I′ to regulate the flow of gas. For the purpose of permitting this cap to be easily manipulated, it is provided with a milled flange J^2 which is of larger diameter than the milled head F′ of the carrier F. This milled flange J^2 extends between the vertical portions of the connecting arms C and as the cap J is adjusted up and down on the member F moves between the horizontal portions C′ of said arms C. It is to be understood that the diameter of this milled flange J^2 is slightly less than the distance between the vertical portions of the arms C so that said flange can be easily turned to operate the regulating cap. As shown in Fig. 3, this flange extends through the spaces between the arm C and considerably beyond the periphery of the largest portion of the Bunsen tube. This milled flange is thus easily accessible and readily operated to raise or lower the cap J. The lower end of the mixing tube is provided with two diametrically opposed notches A^2 the shape of which conforms to the outline of the cap's upper portion. If the cap J is screwed down fully (so as to make the needle valve I′ close the opening J′) its top will under normal conditions still remain within the mixing tube, as shown in Fig. 1. If it is desired to remove the cap, it is necessary, besides, to unscrew the carrier F′, thus lowering the cap farther, until it clears the notches A^2. By then raising the shutter D the cap is released so that

it can be removed sidewise. It will be understood that in the normal operation of the device, the cap will always fit into the mixing tube (even with the needle valve closed) so that no air can enter between the cap and the mixing tube. As long as the regulating shutter D is in its lower position, it will maintain the cap against removal from the burner, if for any reason the carrier F is entirely unscrewed therefrom and from the collar B.

In operation gas enters the carrier F at F^2 and escapes through the openings I and central opening J' to the mixing tube and from there to the burner, the amount of gas being regulated by the position of the needle valve in the opening J.

It will be seen that the entire Bunsen tube, with the collar B and connecting arms C is made in one piece thus greatly simplifying the construction. Further the carrier F and the needle valve can be easily removed from the burner for any purpose. In my device the needle valve is normally stationary and the amount of gas is regulated by screwing the cap J so that the said valve will extend more or less into said opening; by having the screw threaded packing ring H interposed between the said cap and the member F a gas tight joint is secured at this point.

I claim as my invention:

In a gas burner, a mixing tube having air inlets and provided with a lateral notch at its lower end, means for supplying gas to said tube, an adjustable gas regulator fitted into said tube, the upper portion of said regulator having an outline corresponding to that of said notch, so that when lowered sufficiently the regulator may be removed sidewise through said notch, and a vertically movable air shutter which in its normal lowered position obstructs the removal of the gas regulator through said notch.

In testimony whereof, I have hereunto set my hand in the presence of two subscribing witnesses, this 21st day of November 1907.

MICHEL JACOBS.

Witnesses:
E. R. ULNER,
H. HYMAN.