

F. T. WILLIAMS.
 GAS REGULATOR FOR BUNSEN BURNERS.
 APPLICATION FILED OCT. 8, 1908.

920,705.

Patented May 4, 1909.

Fig. 1.

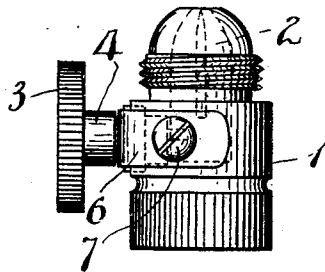


Fig. 3.

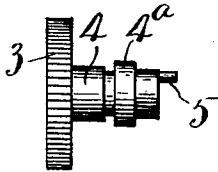


Fig. 4.

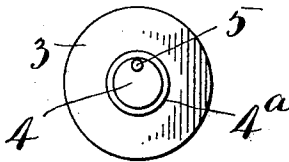


Fig. 5.

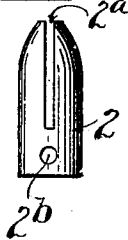


Fig. 6.

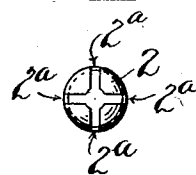
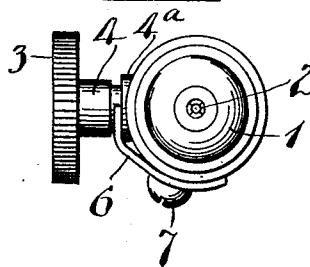


Fig. 2.



Witnesses:

Charles E. ...
Fred M. ...

Inventor

F. T. WILLIAMS

By his Attorneys

Robert ...

UNITED STATES PATENT OFFICE.

FRANK THEODORE WILLIAMS, OF MERIDEN, CONNECTICUT, ASSIGNOR TO EDWARD MILLER & COMPANY, OF MERIDEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

GAS-REGULATOR FOR BUNSEN BURNERS.

No. 920,705.

Specification of Letters Patent.

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Application filed October 8, 1908. Serial No. 456,708.

To all whom it may concern:

Be it known that I, FRANK THEODORE WILLIAMS, a citizen of the United States, residing at Meriden, county of New Haven, State of Connecticut, have invented certain new and useful Improvements in Gas-Regulators for Bunsen Burners, of which the following is a full, clear, and exact description.

My invention relates to improvements in gas regulators for gas burners of the Bunsen type, the object being to improve the construction and provide regulating mechanism which is highly efficient and which will not jar loose so as to impair the adjustment. This and other advantages will be apparent to the mechanic skilled in the art by an inspection of the accompanying drawings and a reading of the following specification.

In the accompanying drawings: Figure 1 is a side elevation of my improved gas regulating device, Fig. 2 is a plan view thereof, Figs. 3, 4, 5 and 6 are detail views.

1 represents the body or base of the burner having a central gas passage and adapted to be connected to a gas pipe in the usual manner. The upper end of the base is reduced in diameter and upon the same may be secured the usual "mixing-tube" (not shown) customarily employed in burners of this type. The central passage or bore through the base 1 is contracted toward its upper end (as indicated in dotted lines Fig. 1) forming a taper or inclined wall leading up to the gas discharge orifice of reduced cross-sectional area at the extreme upper end of said base.

2 is a controller for regulating the size of the gas discharge orifice. This controller 2 is tubular and is adapted to make a sliding fit within the bore of the base 1, the upper end of said controller being drawn down to a taper, as indicated in the detail view Fig. 5. The upper end of the controller 2 is provided with a longitudinal slot or slots 2^a—2^a, there being four of such slots employed in the particular form shown, as may be seen in the plan of this detail shown in Fig. 6. By means of these slots a contractible jaw is provided at the end of the regulating element. It will now be seen, if the controller 2 is moved up in the bore of the body 1, the divided tapered upper end of said controller will be drawn in by engaging the contracted inner wall of the bore therein, thereby reducing the size of discharge orifice to a greater or less degree depending upon the precise position

of the controller. To enable the operator to manipulate said controller, I provide the handle 3 on shaft 4, which latter takes a bearing in the side of the body 1, the inner end of said shaft being provided with the eccentric pin 5 arranged to enter a hole 2^b in the side wall of the controller 2.

6 is a retaining device for the shaft 4, the same being in the form of a spring plate held to the body 1 by means of a screw 7, one end of said spring plate partially embracing the shaft 4 to the rear of the shoulder 4^a thereon and exerting a pressure in a direction to hold the shaft against its seat, which seat is preferably formed by counter boring the body 1 at one side, as indicated in dotted outline in Fig. 1. The desired tension can be applied to the spring plate 6 so as to cause the shaft 4 to be snugly held against its seat to prevent the escape of gas and at the same time to frictionally hold the shaft against accidental displacement, thus guaranteeing the sure retention of said controller 2 in its adjusted position. Now, if the handle 3 is turned, the eccentric pin 5, engaging with the controller 2, will raise or lower the same to the desired degree. In practice, it will be seen the gas flows freely through the tubular controller 2 from end to end, and that the gas outlet passage is always central and of such cross-sectional area as the operator may find is best adapted to desired mixtures. By this construction of regulating device, the controller is given such a uniform and even support throughout its length that chattering is absolutely prevented,—a feature of recognized importance and of great desirability in burners of the Bunsen type. The usual packing washer (not shown) can be employed around the shaft 4 to aid in preventing leakage of gas.

It should be understood I have shown and described my invention in its preferred form only.

Various modifications might be made for example the tubular portion 2 might be stationary and the nipple element at the upper end of the body 1, in which the gas orifice is formed, might be movable relatively to said tubular element; this being a mere alternative form and requiring no illustration since no specific claim therefor is made herein.

What I claim is—

1. In a gas regulator for Bunsen burners, a body having a cylindrical passage therein

contracted at the upper end, a tubular valve
corresponding substantially in shape to the
wall of the passage through said body and
having slits in its upper end to form a plu-
5 rality of adjacent jaws arranged when the
parts are assembled coincident to the outlet
at the upper end of said body the tips of said
jaws being formed to prevent complete clos-
ing of the outlet, said tubular valve making a
10 sliding fit throughout the greater portion of
its length within the bore of the body and
arranged for partial rotation therein, and
means to impart a spiral movement to said
sleeve to regulate the position of said jaws
15 relatively to each other.

2. In a gas regulator for Bunsen burners,
a body having a cylindrical passage therein
contracted at the upper end, a tubular valve
corresponding substantially in shape to the

wall of the passage through said body and 20
having slits in its upper end to form a plu-
rality of adjacent jaws arranged when the
parts are assembled coincident to the outlet
at the upper end of said body, the tips of said
jaws being formed to prevent complete clos- 25
ing of the outlet, said tubular valve making
a sliding fit throughout the greater portion of
its length within the bore of the body and
arranged for partial rotation therein, means
to impart a spiral movement to said sleeve to 30
regulate the position of said jaws relatively
to each other, and means for frictionally hold-
ing said valve adjusting means in any of its
adjusted positions.

FRANK THEODORE WILLIAMS.

Witnesses:

I. B. MILLER,

F. R. ALEXANDER.