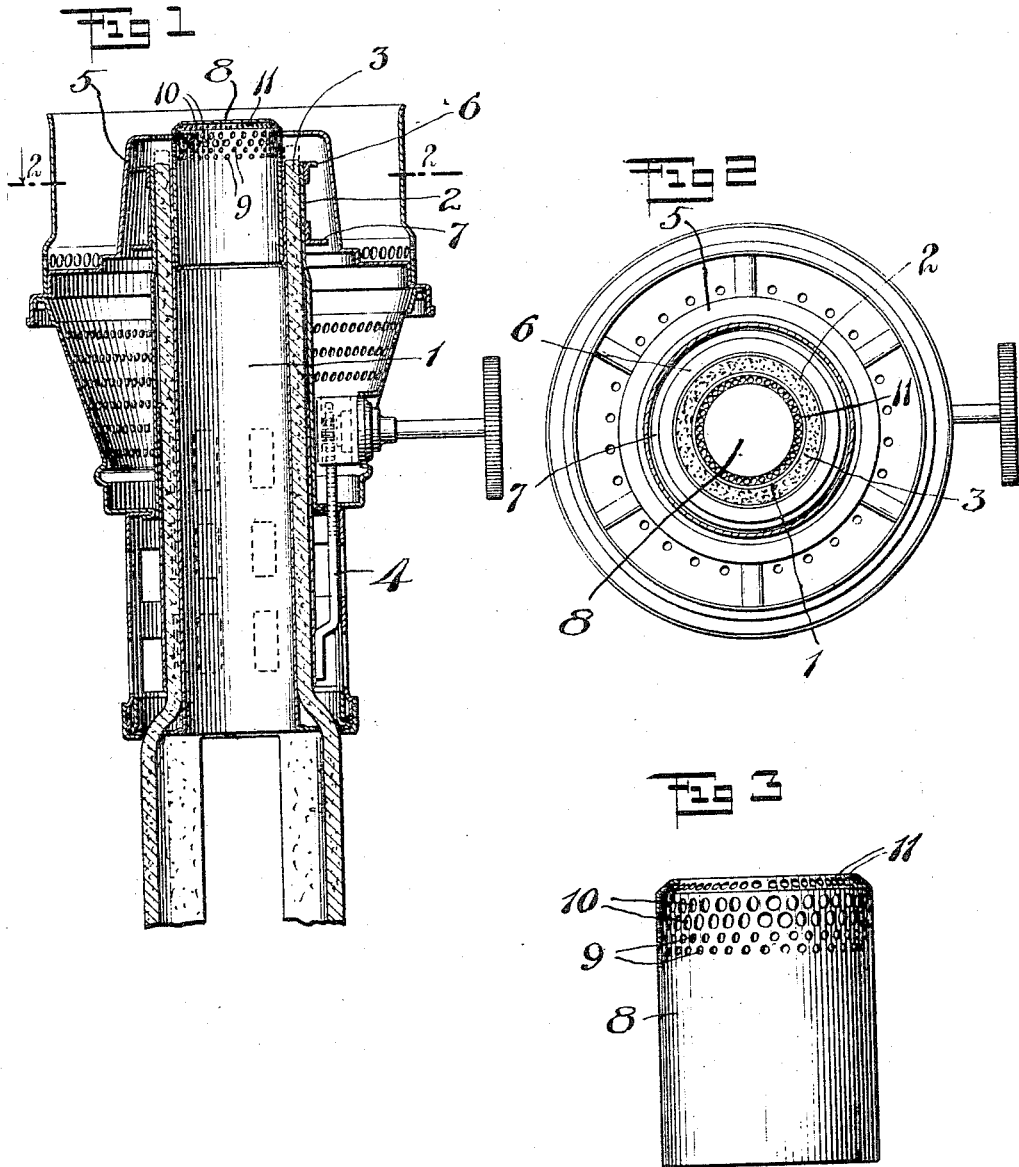


F. T. WILLIAMS.  
BURNER.  
APPLICATION FILED MAR. 28, 1917

1,235,268.

Patented July 31, 1917.



Inventor  
Frank Theodore Williams  
By his Attorneys  
Mitchell V. Allen.

# UNITED STATES PATENT OFFICE.

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

## BURNER.

1,235,268.

Specification of Letters Patent. Patented July 31, 1917.

Application filed March 23, 1917. Serial No. 157,936.

*To all whom it may concern:*

Be it known that I, FRANK THEODORE WILLIAMS, a citizen of the United States of America, residing at Meriden, Connecticut, have invented a new and useful Burner, of which the following is a specification.

My invention relates to lamp burners particularly of the Argand type which are especially designed to burn with a blue flame for use with an incandescent mantle. My object is, to improve the construction of the burner whereby it will produce a satisfactory blue flame at all positions of the wick, and to prevent excessive heating when the wick is turned down to dim the light. This object I accomplish by the employment of certain new and useful features which I am about to describe and which are shown in the accompanying drawings in which:

Figure 1 is a vertical section of my improved burner.

Fig. 2 is a plan view partly in section on the line 2—2 of Fig. 1.

Fig. 3 is a side elevation partly in section and relatively enlarged of a detail.

1 represents an inner wick tube. 2 represents an outer wick tube. These tubes are suitably mounted and arranged whereby a tubular wick 3 may be raised and lowered between the same by any suitable form of wick raising device 4. 5 represents an outer cone or deflector at the upper part of the burner, the said cone having a central passage which overstands and is concentric with the wick tubes. The extreme upper edge of this cone is located a short distance above said tubes, whereby the flame may issue through the opening. 6 represents an outwardly extending flange at or near the upper end of the outer wick tube, while 7 represents another annular outwardly directed flange on said outer wick tube below the flange 6. As shown, the flange 7 is somewhat larger in diameter than the upper flange, the purpose being to make it more nearly conform to the diameter of the outer cone, since the inner wall of the outer cone adjacent to the edge of the lower flange is of greater diameter than the cone adjacent to the upper flange. These dimensions may of course be varied at will and as the particular occasion demands, it being essential, however, that there shall be a plurality of flanges such as shown, or equivalent devices, around the outer wick tube so as to control the passage of air up

through the space between the outer wick tube and the surrounding cone 5. 8 is what I may term a central air controller or cylindrical deflector which has a closed upper end, the upper part of the cylindrical side wall thereof, however, being perforated in a unique manner. 9—9 represent relatively small perforations extending around the air controller 8. 10—10 represent larger perforations located above the perforations 9 and also extending around the controller 8. 11—11 are a series of perforations placed at an angle at the junction of the top and sides of said controller. The function of the several rows of perforations in the controller 8 is to supply air to the inside of the flame. In practice I have found that the larger perforations 10 should have an area of about four times that of the smaller perforations, although I do not wish to be limited to those proportions, it being important only that the area of the perforations in the side of the controller shall increase as they proceed upwardly. I have found that in burners of this type where the perforations are of equal size, when the wick is lowered too much air is supplied to the root of the flame causing the same to take a yellowish hue and causing the burner to heat excessively. I have also found that by the improvements described herein these objections have been overcome. In operating the burner the wick is first lowered to a position where it will uncover practically all of the holes in the controller 8. When the wick is well alight, it may then be raised to a position where the upper part of the wick will cover some or all of the lower or smaller holes 9 leaving the larger holes 10 exposed. Again by my improvement I have found that the flame is made very steady and that smoky streaks in the flame are avoided.

While I have shown my improved burner in its preferred form, it should be understood I contemplate that various changes and modifications may be made in the proportions and details thereof without departing from the spirit or scope of the invention.

I claim:

1. In a burner of the Argand type, inner and outer wick tubes, a cylindrical controller located at the upper end of the inner wick tube with air passages in the side walls of said controller, the capacity of said air passages increasing progressively upwardly.

110

2. In a burner of the Argand type, inner and outer wick tubes, a cylindrical controller located at the upper end of the inner wick tube with air passages in the side walls of said controller, the capacity of said air passages increasing upwardly, with a row of angularly disposed air passages at the junction of the top and sides of said controller.
3. In a burner of the Argand type, inner and outer wick tubes, a perforated air controller located at the upper end of the inner wick tube, perforations in said controller being arranged around the side thereof, the area of the perforations in the upper part being greater than the area of said perforations adjacent the end of said tube.

FRANK THEODORE WILLIAMS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."