

F. E. BUDDINGTON.  
GAS BURNER.  
APPLICATION FILED JAN. 6, 1909

917,998.

Patented Apr. 13, 1909.

Fig. 1.

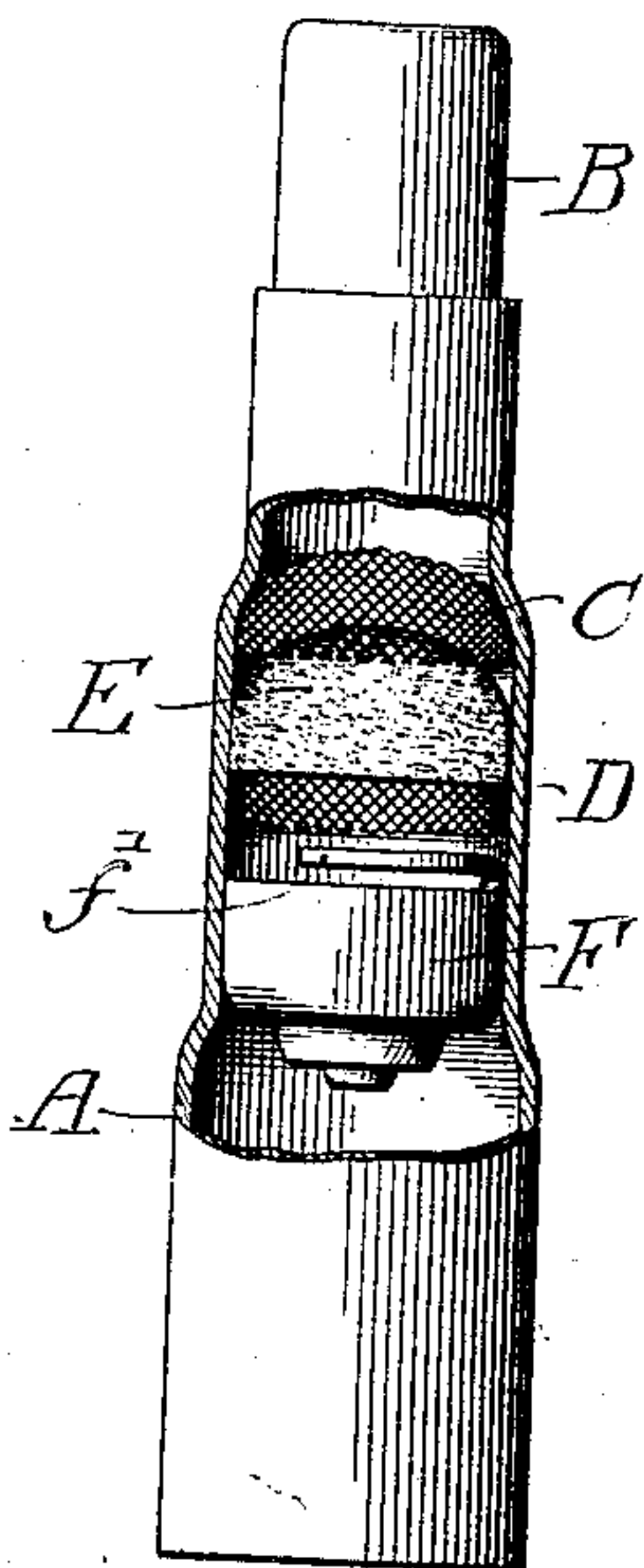


Fig. 2.

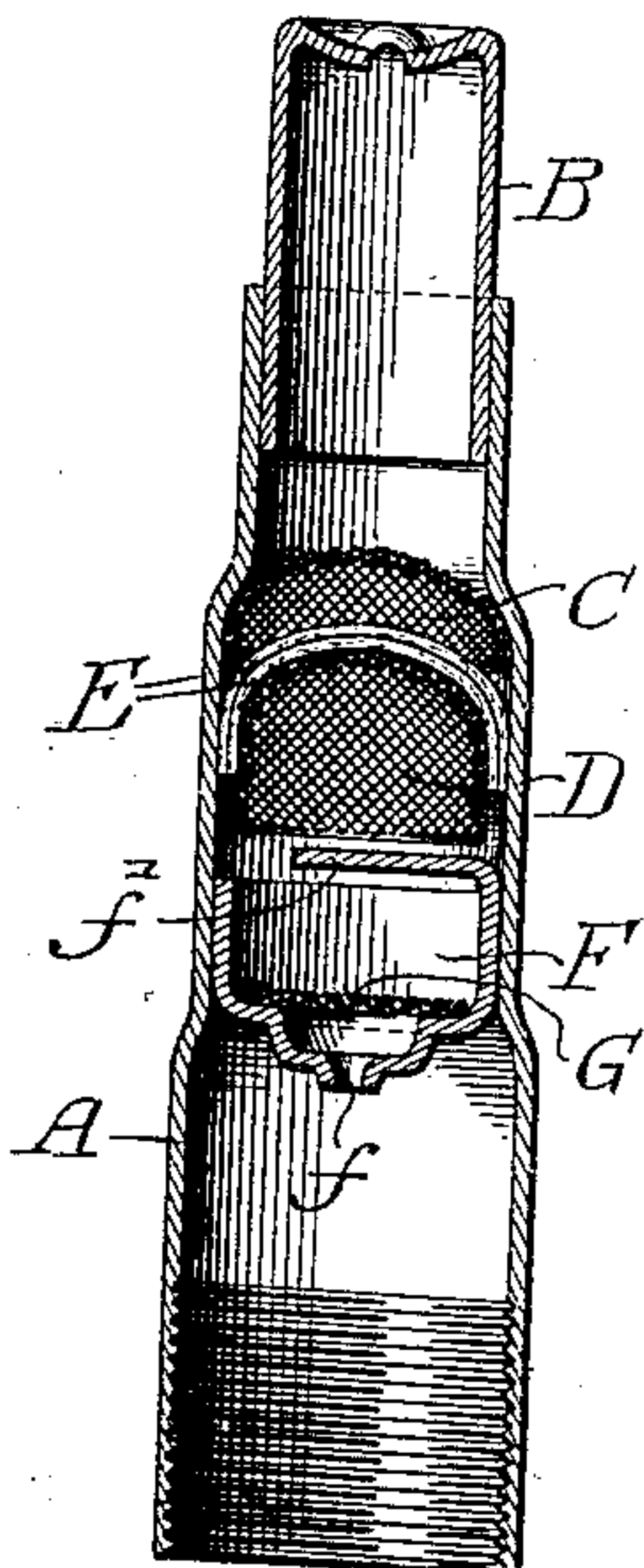
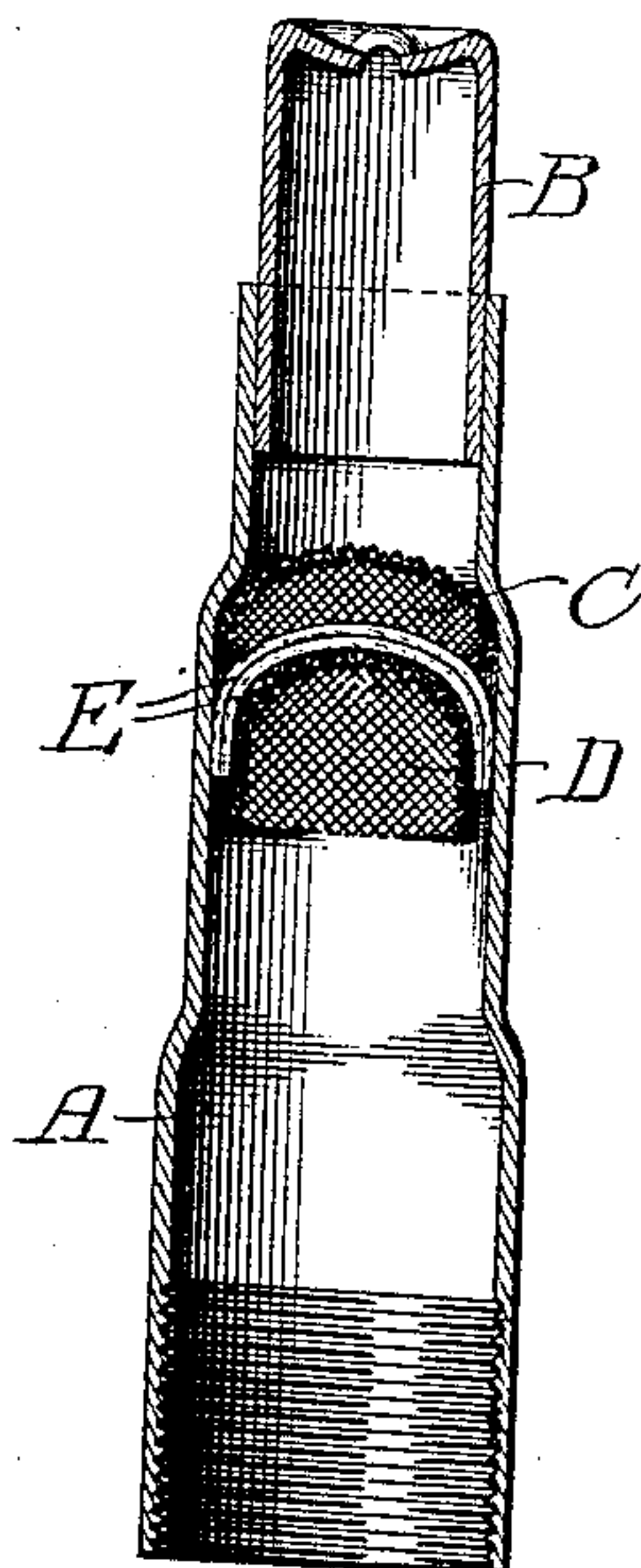


Fig. 3.



Witnesses:-

*Wm. H. Whitehead*  
*Nathaniel S. Lusk*

Inventor:-

*Frank E. Buddington*  
By:- *Prin & Fisher*  
Attys:-



# UNITED STATES PATENT OFFICE.

FRANK E. BUDDINGTON, OF CHICAGO, ILLINOIS.

## GAS-BURNER.

No. 917,998.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed January 6, 1909. Serial No. 470,925.

*To all whom it may concern:*

Be it known that I, FRANK E. BUDDINGTON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gas-Burners, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification.

Figure 1 is a view in elevation of a gas burner, portions being broken away to show in elevation the parts inclosed within the burner casing. Fig. 2 is a view in central, vertical section through Fig. 1. Fig. 3 is a view similar to Fig. 2, but with the lower controller omitted.

This invention has for its object to provide improved means for controlling the flow of illuminating gas through the burner, so that a more steady, uniform flow may be secured regardless of variations of pressure of gas under different conditions of service. This object of the invention I have accomplished by the novel features hereinafter described, illustrated in the accompanying drawing and particularly defined in the claims at the end of this specification.

Various attempts have heretofore been made to provide gas burners with controlling devices adapted to improve the character of the flame and to effect economy in the amount of gas consumed. To this end, it has heretofore been proposed to provide an interior of a burner casing with a mass of mineral wool inclosed between wire gauze screens; and it has also been proposed to place layers of muslin or like material within the casing of the burner in order to steady the flame of gas. Various objections, however, are found to exist in such prior devices. Where a mass of mineral wool or the like is used, it has a tendency to become impacted and clogged with the impurities from the gas and where superposed disks of muslin or the like have been employed there is a tendency of the gas to force its way through a comparatively small area of the disks which soon become weakened and fail to effectively distribute uniformly the current of gas. My improved burner obviates the above mentioned objections and provides a most simple, cheap and effective means for controlling the flow of gas through the burner.

A designates the tubular body or casing

of the gas burner that is shown as provided with a metallic tip B. Beneath the tip B I prefer to place a wire gauze screen C that aids in distributing the flow of gas and prevents possibility of any backward passage of flame from the tip. Beneath the screen C is placed my improved controller that consists of a foraminous screen D over which is stretched one or more layers of textile fabric E. The fabric E is preferably a very thin woolen cloth or flannel, and I prefer to use two thicknesses of such fabric, as indicated in the drawing. As shown, the foraminous screen D is cup-shaped and of slightly smaller diameter than the tubular body of the burner casing A. In applying the controller, the textile fabric is first cut into disk-shaped layers which are then placed over the foraminous screen D and these parts are then forced upward into the casing A to a point slightly beneath the wire screen C. The resiliency of the cup-shaped, foraminous screen D, which is preferably formed of wire gauze, serves to effectually bind the textile fabric E in stretched condition over the top of the screen D and between its edges and the wall of the inclosing casing A.

Beneath the screen D I prefer to employ a controller such as that shown in Letters Patent No. 904,246, granted to me November 17, 1908, this controller comprising an inverted cup-shaped body F having a perforation *f* in its bottom and a diaphragm *f'* extending across its top, and I prefer to place within this diaphragm a wire gauze screen G.

In practice, I have found that by extending the layer or layers of textile fabric E over a foraminous screen D a much more uniform passage of the gas through the various parts of the textile fabric is insured, as the foraminous screen D serves not only to support the fabric in distended condition but aids in distributing the gas more uniformly beneath the fabric so that the flow of gas excessively through any point of the fabric is avoided. It is obvious that, as the number of thicknesses of textile fabric is increased the resistance offered to the flow of the gas will be correspondingly increased, but the resiliency of the foraminous screen D will permit of a variation in the number of thicknesses of the fabric.

The term "textile fabric", as herein used, I do not wish to be understood as limited to a woven cloth since, manifestly, a thin layer of felt, wool, or other porous material ex-



tended over the top of the screen will answer the purpose, and in such cases the screen will still perform the function of supporting and holding the textile fabric or material and causing the flow of gas to be more uniformly distributed therethrough.

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

10 1. A controller for gas burners comprising a tubular casing, a foraminous screen within said casing and textile material extended over said screen, the edges of said material being held between the screen and the wall of  
15 the casing.

2. A controller for gas burners, comprising a tubular casing, a cup-shaped, foraminous screen within said casing, and a layer of textile material extending over said casing  
20 and having its lower edges clamped thereto to retain said fabric in position on the screen.

3. A controller for gas burners comprising a tubular casing, a wire screen within the upper portion of said casing, a foraminous screen beneath said wire screen and textile  
25 fabric extending over said foraminous screen, the edges of said fabric being held between the screen and the wall of the casing.

4. A controller for gas burners comprising a tubular casing, a foraminous screen within  
30 said casing, textile fabric extending over said screen, the edges of said fabric being held between the screen and the wall of the casing, and a diaphragm located beneath said foraminous screen to spread the current of gas  
35 before it reaches said screen.

FRANK E. BUDDINGTON.

Witnesses:

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