No. 798,647. PATENTED SEPT. 5, 1905.

W. M. WELCH.

GAS BURNER.

APPLICATION FILED JUNE 22, 1905.

FIG. 1.

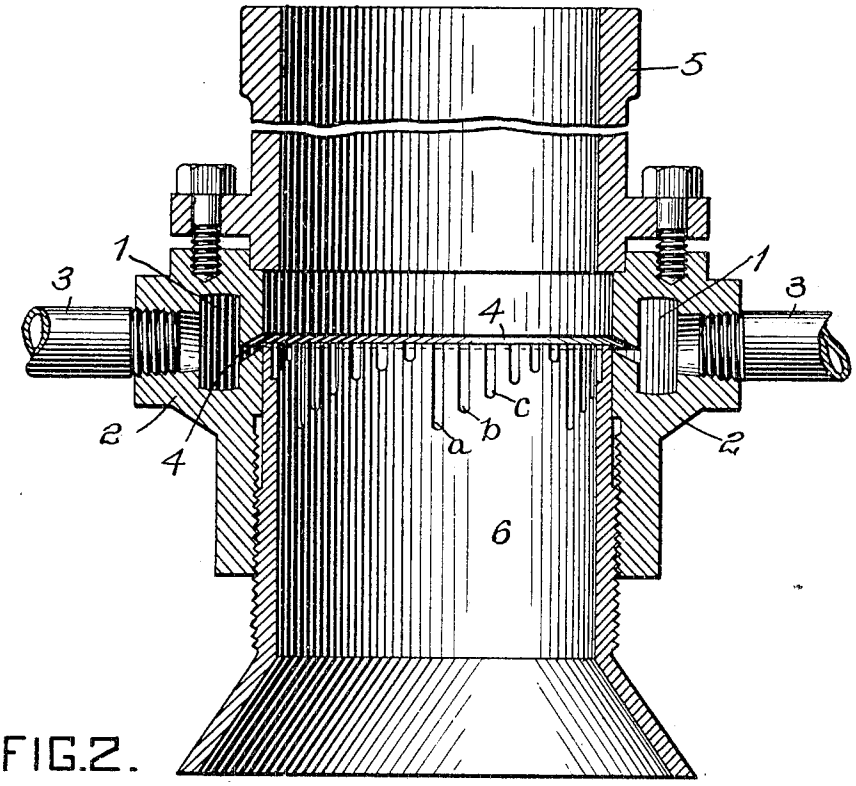


FIG. 2.

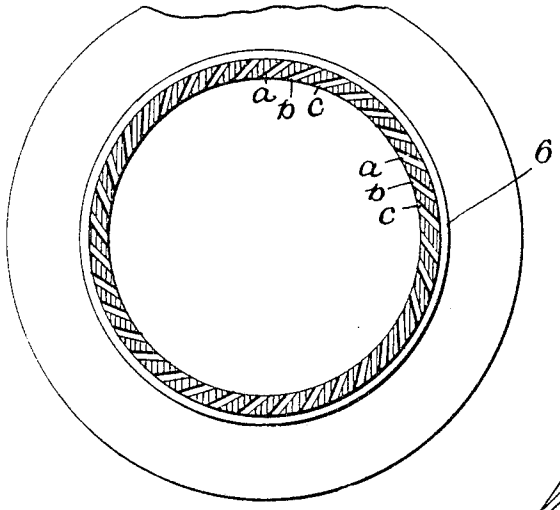
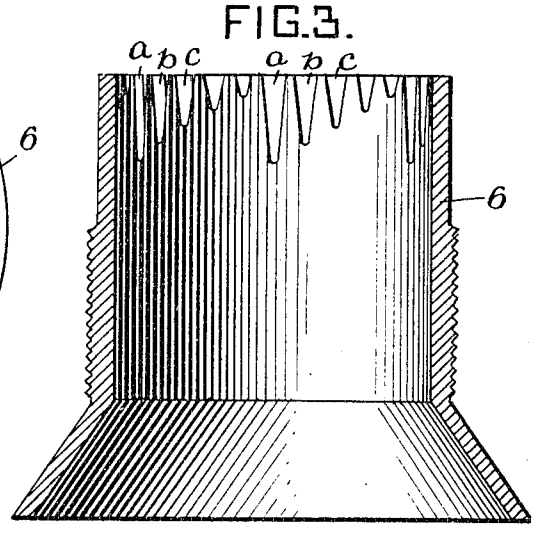


FIG. 3.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM M. WELCH, OF COLUMBUS, OHIO.

GAS-BURNER.

No. 798,647. Specification of Letters Patent. Patented Sept. 5, 1905.

Application filed June 22, 1905. Serial No. 266,456.

To all whom it may concern:

Be it known that I, WILLIAM M. WELCH, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented or discovered certain new and useful Improvements in Gas-Burners, of which improvements the following is a specification.

The invention described herein relates to certain improvements in the class or kind of burners forming the subject-matter of an application filed by me May 4, 1904, and numbered serially 206,375, and has for its object a construction and combination of parts whereby a very accurate regulation and adjustment of the flow of gas may be obtained. The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of my improved burner. Fig. 2 is an end view of the regulating-sleeve. Fig. 3 is a sectional view of a modification in the construction of the adjustable member.

In the practice of my invention I provide an annular chamber 1, preferably formed in an annular block 2. This chamber is connected by one or more pipes 3 with a gas-supply, and a slot 4, preferably continuous, is formed through the inner walls of the annular chamber. It will be understood that the continuity will not be materially interrupted if transverse braces are arranged at intervals. The walls of the slot are given an inclination toward the axis of the annular block, so as to direct the gas toward the discharge end of the burner, which is formed by a tubular tip 5, secured to the block in any suitable manner. In order to regulate the flow of gas, an internal sleeve 6 is arranged to move along the annular block and across the slot 4. It is preferred that the block should be internally threaded for effecting the longitudinal adjustment of the sleeve. The inner end of the sleeve is notched, the notches varying in length, so that as the end of the sleeve is moved across the continuous slot in the annular block the flow of gas will be substantially proportional to the number of notches in the sleeve registering with the continuous slot. By the adjustment of the sleeve a flow of gas equal to the full capacity of the slot can be had, or such flow can be reduced to a minimum or entirely stopped. It is preferred that the walls of the notches should be at an angle to radial planes, as shown in Fig. 2, so that a rotary movement or swirl may be given to the gas, thereby insuring a thorough mixture of the gas with the air flowing in through the sleeve. A more accurate adjustment of the flow of gas can be obtained by making the notches **V**-shaped, as shown in Fig. 3. In the construction shown a reduction of flow can be had without shifting any of the notches out of register with the continuous slot. In order that the gas may at all times flow into the sleeve at a plurality of points, it is preferred to arrange the notches in series and employ a plurality of series. Each series contains a plurality of notches *a b c*, &c., varying in length from the longest to the shortest notch employed. It will be understood that the sleeve can be shifted so that only notches *a* of each series are in register with the slot, or so shifted that any desired number of notches of the several series will so register.

I claim herein as my invention—

1. A gas-burner having in combination a chambered annular block, the inner wall of said chamber being slotted and a sleeve movable in said block and provided with notches varying in length.

2. A gas-burner having in combination a chambered annular block, the inner wall of said chamber being slotted and a sleeve movable in said block and provided with notches varying in length and having their walls at an angle to radial planes.

3. A gas-burner having in combination a chambered annular block, the inner wall of the chamber being slotted and a sleeve movable in said block and provided with **V**-shaped notches.

In testimony whereof I have hereunto set my hand.

WM. M. WELCH.

Witnesses:
J. P. HUDSON,
P. M. BIDDISON.