No. 733,424. PATENTED JULY 14, 1903.

A. B. REDELL.

BUNSEN BURNER.

APPLICATION FILED APR. 22, 1903.

NO MODEL.

Fig. 1.

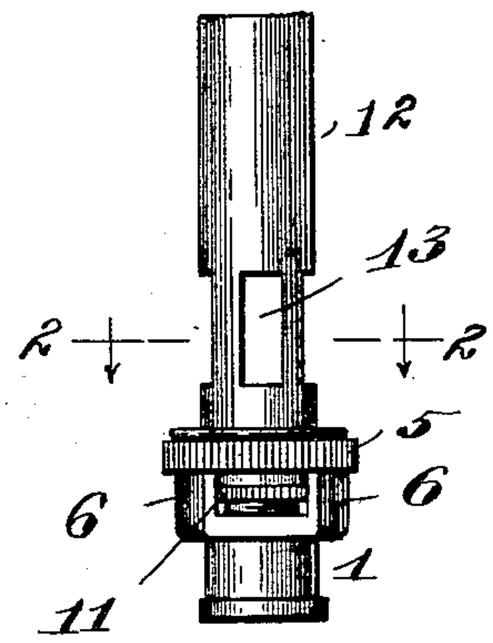
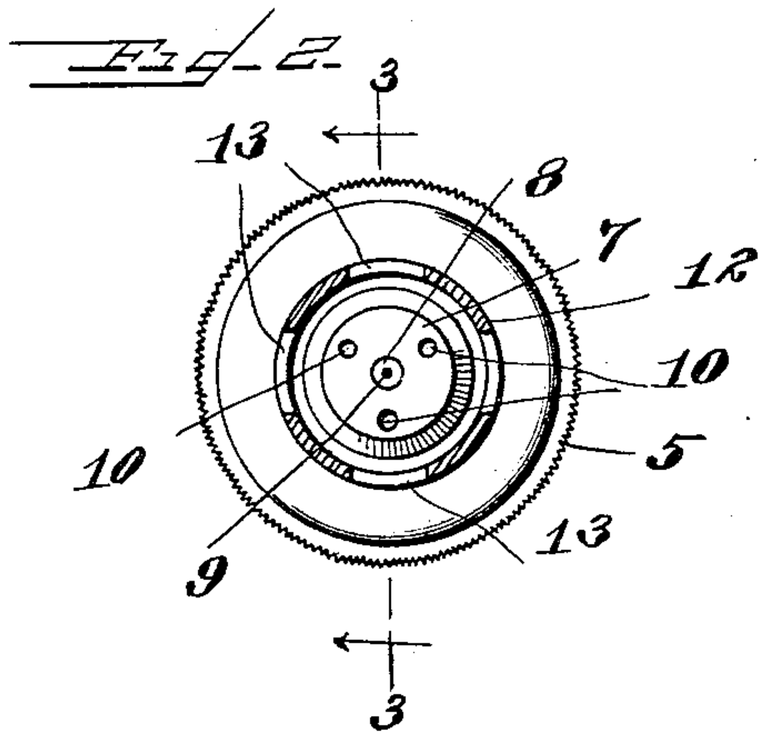


Fig. 2.



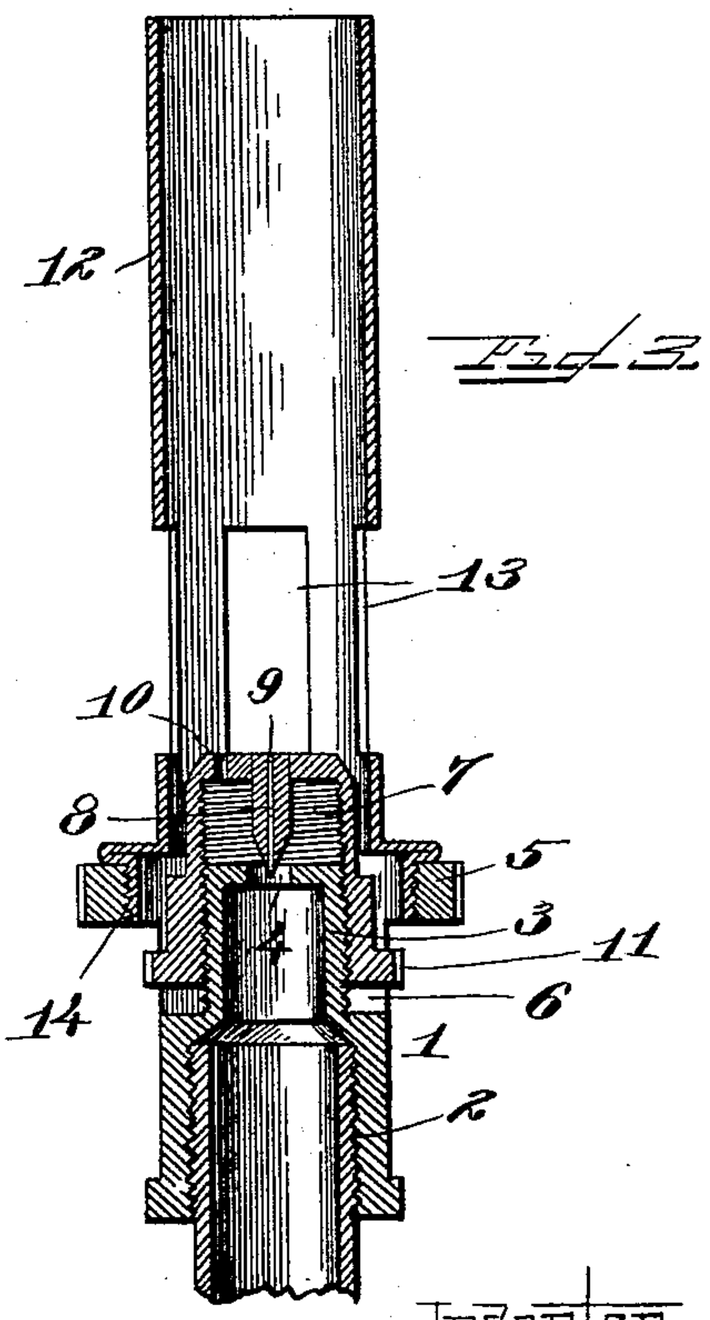


Fig. 3.

Witnesses.

G. A. Pauberschmidt

George L. Chindahl

Inventor.

Alvin B. Redell

By. Luther L. Miller.

Atty.

No. 733,424. Patented July 14, 1903.

UNITED STATES PATENT OFFICE.

ALVIN B. REDELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHARLES R. LINDSAY, JR., OF CHICAGO, ILLINOIS.

BUNSEN BURNER.

SPECIFICATION forming part of Letters Patent No. 733,424, dated July 14, 1903.

Application filed April 22, 1903. Serial No. 153,745. (No model.)

To all whom it may concern:

Be it known that I, ALVIN B. REDELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bunsen Burners, of which the following is a specification.

This invention relates to Bunsen burners, and refers particularly to an improved construction of such burners whereby a more complete mixture of air and gas is obtained and a more perfect control of the gas is had than is possible in the ordinary Bunsen burner, whereby also the "singing" noises common in the operation of these burners is obviated and their operation simplified and improved.

In the accompanying drawings, Figure 1 is a side elevation of a Bunsen burner embodying my invention. Fig. 2 is a transverse section on dotted line 2 2 of Fig. 1. Fig. 3 is a vertical sectional view on dotted line 3 3 of Fig. 2.

In the embodiment herein shown of my invention I provide an integral body portion 1, comprising an internally-screw-threaded socket 2 at its lower end for securing the burner upon a gas-fixture. The body portion 1 is further provided with a tubular externally-screw-threaded stem 3, having at its upper end a central gas-discharge opening 4, somewhat smaller than the internal diameter of said stem, also with a ring 5, screw-threaded upon its inner circumference for a purpose to appear later herein. The ring 5 is supported by the integral side arms 6 and is knurled upon its outer circumference to facilitate securing the burner upon the gas-fixture. A closure-cap 7 is provided for the upper end of the tubular stem 3 and has a downwardly-extending tapering closing-pin 8 on its interior, adapted to enter and close the gas-discharge opening 4. The closing-pin 8 has a small central perforation 9 to permit the passage at all times of a small quantity of gas from the tubular stem 3 to the Bunsen tube, to be hereinafter described, for maintaining a constant flame. The closure-cap 7 is internally screw-threaded to correspond with the tubular stem 3, upon which it is adapted to be mounted. In the upper end of the closure-cap 7 several perforations 10 are formed—in this instance three—arranged around the base of the closing-pin 8, which openings are provided to permit the passage of the gas from the interior of the closure-cap 7 to the Bunsen tube. At its lower edge the closure-cap is provided with an annular outwardly-extending flange 11, which flange is knurled or otherwise roughened on its periphery.

A Bunsen tube 12, having air-inlet openings 13 in its side walls near its lower end, is provided with the annular base 14, screw-threaded on its periphery to correspond with the screw-threads on the inner face of the ring 5, upon which ring the said Bunsen tube is rigidly mounted.

In use the burner herein described is secured onto the end of a gas-fixture, (not shown,) and the supply of gas entering the closure-cap 7 is regulated by turning the knurled flange 11 at the base of said cap. The flange 11 projects outwardly beneath the ring 5, so that its periphery may be grasped by the thumb and finger of the operator. Turning said cap raises or lowers it by reason of its screw-thread connection with the tubular stem 3 and moves the tapering closing-pin 8 out of or into the opening 4 to open said passage or to close it, and thereby to control the flow of gas through said opening. From the cap 7 the gas emerges through the openings 10 into the Bunsen tube 12, entering said tube near the lower margin of the air-inlet openings 13 and uniting with the air in said tube to form a combustible mixture. In practice it has been found that a number of small gas-escape openings are preferable to one large opening, as by the use of a number of openings the singing and other disagreeable noises that occur in burners of this style are avoided.

The device herein illustrated and described is susceptible of various modifications in the form and arrangement of its parts without a departure from the spirit and scope of my invention, wherefore I do not limit myself to the particular construction herein set forth.

I claim as my invention—

1. In a Bunsen burner, in combination, an

integral body portion comprising a tubular stem and a ring, said stem having in its upper end a central opening, and said ring being screw-threaded upon its inner circumference; a tubular closure-cap having a screw-thread engagement with said stem and provided in its upper end with a gas-escape opening, said cap carrying a pin adapted to enter and close the central opening of the tubular stem; and a Bunsen tube having at its lower end an annular base, said base being screw-threaded to correspond with the screw-threads upon said ring.

2. In a Bunsen burner, in combination, an integral body portion comprising a tubular stem and a ring, said stem having in its upper end a central opening; a tubular closure-cap having a screw-thread engagement with said stem and provided in its upper end with a gas-escape opening, said cap carrying a pin having a conical tip adapted to enter and close the central opening of the tubular stem, said pin also being perforated to permit the escape of a small quantity of gas for maintaining a constant flame; and a Bunsen tube secured to said ring.

3. In a Bunsen burner, in combination, an integral body portion comprising a socket, a tubular stem and a ring, said stem having in its upper end a central opening, and said ring being screw-threaded upon its inner circumference; a tubular closure-cap having a screw-thread engagement with said stem and provided in its upper end with a plurality of gas-escape openings, said cap carrying a pin having a conical tip adapted to enter and close the central opening of the tubular stem, said pin also being perforated to permit the escape of a small quantity of gas for maintaining a constant flame; and a Bunsen tube having at its lower end an annular base, said base being screw-threaded to correspond with the screw-threads upon said ring.

ALVIN B. REDELL.

Witnesses:
L. L. MILLER,
GEORGE L. CHINDAHL.