J. A. STEELE.

BUNSEN BURNER.

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1,097,825.

Patented May 26, 1914.

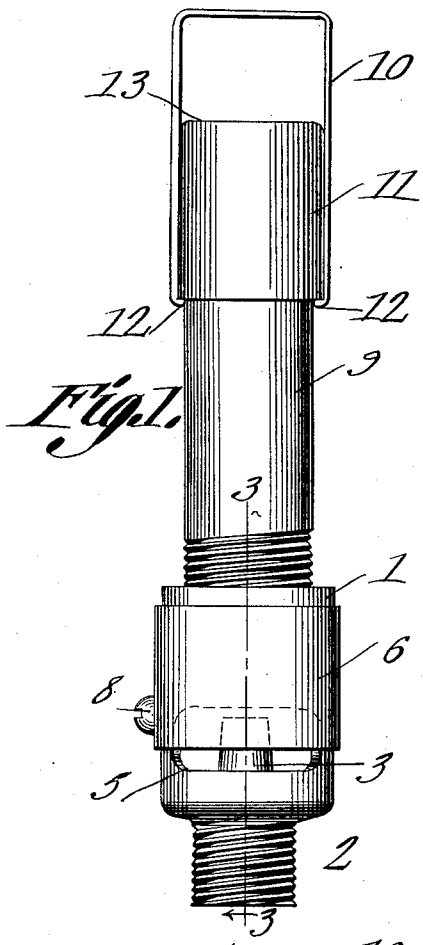


Fig. 1.

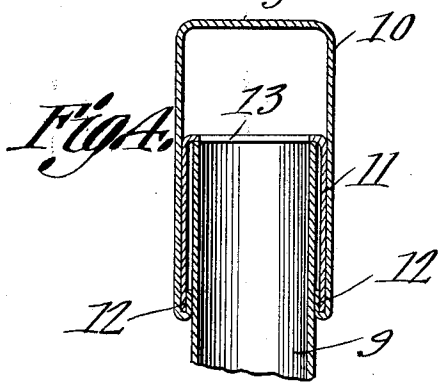


Fig. 4.

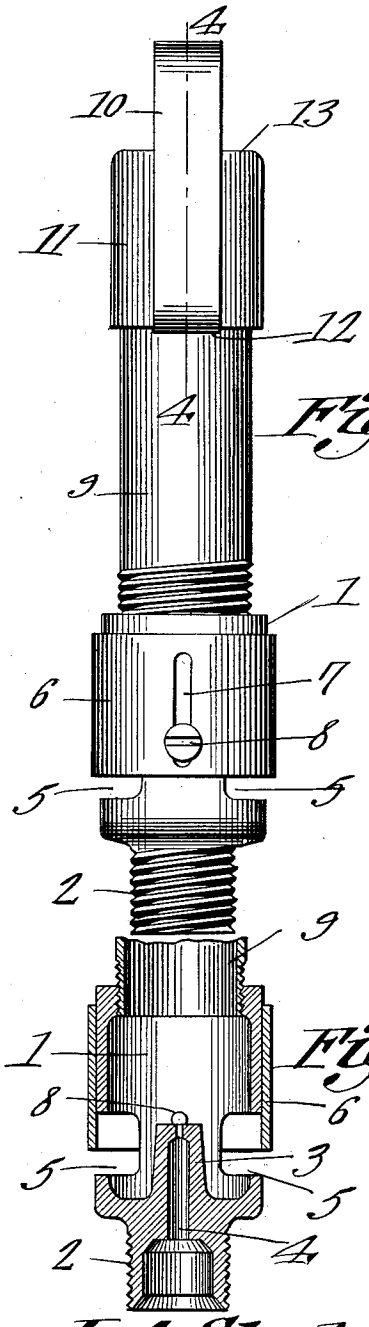


Fig. 2.

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN A. STEELE, OF CEDARVILLE, OHIO.

BUNSEN BURNER.

1,097,825. Specification of Letters Patent. Patented May 26, 1914.

Application filed October 2, 1913. Serial No. 793,029.

To all whom it may concern:

Be it known that I, JOHN A. STEELE, a citizen of the United States, residing at Cedarville, in the county of Greene and State of Ohio, have invented a new and useful Bunsen Burner, of which the following is a specification.

The present invention appertains to gas burners of the Bunsen type, and has for its object to provide a novel and improved flame baffle for such burners.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention has been illustrated in its preferred embodiment in the accompanying drawing, wherein:—

Figure 1 is a side elevation of the improved burner. Fig. 2 is a similar view, taken at right angles to the line of view of Fig. 1. Fig. 3 is a sectional view taken through the lower portion of the burner, the section being taken on the line 3—3 of Fig. 1. Fig. 4 is a sectional view taken through the flame baffle, the section being taken on the line 4—4 of Fig. 2.

The improved baffle may be employed on various burners. The burner illustrated embodies a mixer including a cup-shaped casting 1 forming the base of the burner, the cup 1 being provided with a depending shank or collar 2 which is externally threaded, in order to permit the shank or collar to be threaded into a gas supply pipe, or the like. The bottom of the cup 1 is provided with an upstanding nozzle or nipple 3 which is relatively short, or which terminates below the mouth of the cup. The cup is provided with diametrically opposite arcuate openings 5 adjoining its bottom, a duct or channel 4 extending from the extremity of the shank 2 through the nozzle or nipple 3, and the upper extremity of the duct 4 being reduced to provide a restricted outlet for the gas.

A damper ring 6 is slidable snugly upon the cup 1 above the openings or air inlets 5, in order that it may be slid downwardly over and upwardly away from the openings to control the passage of air through the said openings. The ring 6 is provided with a vertical or upright slot 7 through which a clamping screw 8 is passed so as to threadedly engage the cup 1 between the ends of the openings 5. The screw 8 is adapted to clamp the damper ring 6 at any position to which it is slid, as will be apparent. In connection with the cup 1, there is employed a mixing pipe 9 which may be of any suitable length, the lower end of the mixing pipe 9 being threaded into the mouth of the cup 1.

The flame baffle 10 is of inverted U-shape, and is preferably formed of a bar or strip of suitable metal. The flame baffle 10 is secured over the upper end of the mixing tube 9 by means of a cap 11 slipped over the upper end of said tube. To accomplish the desired result, the ends or extremities of the baffle 10 are bent back inwardly, as at 12, to engage within the lower end of the cap 11, the upper end of the cap 11, being inturned or formed into an internal flange, as at 13, to rest upon the upper end of the mixing tube 9, and to provide an opening registering with the bore of the pipe 9. In applying the baffle 10, the reflexed ends 12 are first engaged within the lower end of the cap 11, and the cap and baffle are then placed over the upper end of the mixing tube, the reflexed ends 12 being tightly clamped between the cap and mixing tube, so as to frictionally hold the cap and baffle in position. When the cap and baffle are slid to position, the flange 13 will seat upon the upper end of the mixing tube, to limit the downward movement of the cap and baffle.

In practice, the Bunsen burner herein disclosed may be employed for various purposes, it being especially adapted for furnaces, stoves, and the like, for heating purposes. The supply of air may be controlled by adjusting the damper or valve 6, as will be apparent, in order that a maximum heating effect may be accomplished, with a minimum expenditure of fuel.

It will be observed that the flame at the upper end of the mixing tube, when the gas is ignited, will strike the yoke-shaped baffle 10, and check the force of the flame or mixture issuing from the tube 9, whereby there will be a less tendency for the flame to blow out. In other words, the baffle 10 tends to hold the mixture of gas and air within the mixing tube, by decreasing the

force of the gaseous mixture as it issues from the mixing tube.

In view of the foregoing, taken in connection with the drawing, the advantages and capabilities of the present invention will be apparent to those versed in the art, and need not be described at length.

If desired, the baffle 10 can be secured to or molded integrally with the cap 11.

Having thus described the invention, what is claimed as new is:—

In combination with a burner tube, a cap slipped over the end thereof, and having an inturned flange at its upper end seating on the end of the burner tube, and an inverted U-shaped flame baffle, having its extremities reflexed inwardly and engaged within the lower end of the cap, the reflexed ends of the baffle being clamped between the cap and the burner tube.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN A. STEELE.

Witnesses:
ANDREW JACKSON,
GEO. A. SHRODES.

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