

D. HAMILTON.

BURNER.

APPLICATION FILED JUNE 13, 1910.

1,026,982.

Patented May 21, 1912.

Fig. 1.

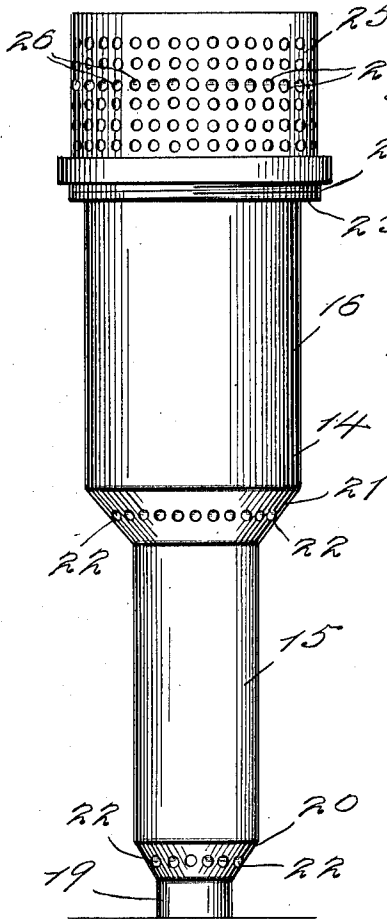
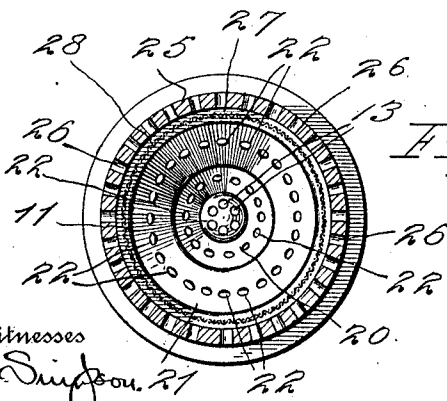
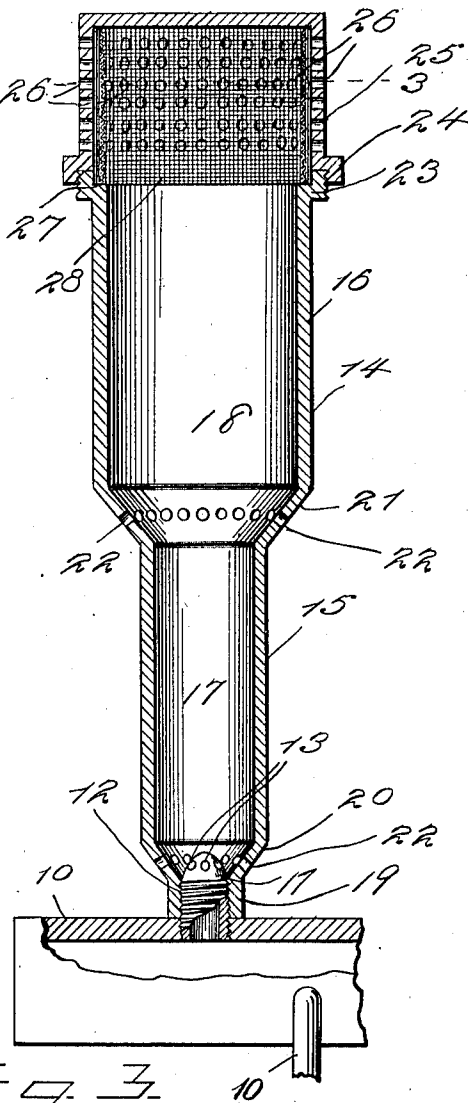


Fig. 2.



Witnesses
J. C. Simpson
H. O. Parker

Inventor
David Hamilton
By *[Signature]*
Attorneys

UNITED STATES PATENT OFFICE.

DAVID HAMILTON, OF GREENSBURG, PENNSYLVANIA.

BURNER.

1,026,982.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed June 13, 1910. Serial No. 571,707.

To all whom it may concern:

Be it known that I, DAVID HAMILTON, a citizen of the United States, residing at Greensburg, in the county of Westmoreland, State of Pennsylvania, have invented certain new and useful Improvements in Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to burners and more particularly to the class of gas burners.

The primary object of the invention is the provision of a burner in which the heating quality is materially increased with a minimum consumption of fuel such as gas and that will obviate the issuance of smoke from the burner.

Another object of the invention is the provision of a burner in which the air supply thereto is so arranged as to cause the issuance of a green flame with an increase of heating quality for the same quantity of gas in contradistinction to the ordinary blue flame delivered from burners now commonly used.

A further object of the invention is the provision of a burner of this character which is simple in construction, thoroughly reliable and efficient in operation and inexpensive in manufacture, and furthermore that may be used in connection with furnaces or other heating apparatus.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, disclosing the preferred form of embodiment of the invention and pointed out in the claim hereunto appended.

In the drawings:—Figure 1 is a side elevation of a burner constructed in accordance with the invention. Fig. 2 is a vertical longitudinal sectional view thereof. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings by numerals 10 designates generally a gas drum or receiver which may be of any desirable construction and is supplied with gas through the medium of a gas main or pipe 10' from any

suitable source of gas supply. The upper surface or top of this drum 10 is flat and is provided with a conoidal shaped nipple 11 rising therefrom the outer side of which is screw threaded as at 12 and near the apex of this nipple is provided a series of outlet ports 13 the nipple being engaged by a burner which is threaded thereon, the said burner being hereinafter more fully described.

The burner comprises a tubiform stem body 14 having one portion 15 thereof contracted relative to the portion 16 so as to provide communicating mixing chambers 17 and 18 of varying areas with respect to each other the portion 15 at the inner end of the body 14 is contracted as at 19 to engage the nipple 11 by the threads 12 of the nipple 11 rising from the gas drum.

In the upwardly diverging circular portions 20 and 21 of the body 14 are air inlet openings 22 which latter permit the ingress of air into the mixing chambers of the burner. The larger portion 16 of the body 14 at its upper end is provided with an annular flange 23 having external screw threads 24 engaged by an internally screw threaded cap or burner tip 25 the side wall of which is provided with discharge apertures 26 through which the mixture passes for the proper ignition or flaming of the gases. Resting upon a shoulder 27 formed by the flange 23 on the body 14 is an annular wire mesh fabric or body 28 the latter being disposed in juxtaposition to the inner face of the burner tip or cap, the purpose thereof being to prevent back firing or the possibility of an explosion of the gas when mixing with air in the mixing chamber of the burner.

It will be noted that by the construction of the gas burner there will be an aggregate supply of air into the mixing chamber so that when the gas is delivered thereinto from the drum 10 the said gas will be thoroughly mixed with the air to effect the proper ignition or flaming of the gas so that it will issue as a green flame in contradistinction to a blue flame and that will require the utilization of a minimum amount of gas by resulting in a maximum heating quality.

What is claimed is:—

The combination with a gas drum having an externally threaded nipple rising therefrom; of a burner comprising a tubular body having a cylindrical interiorly thread-

ed attaching portion and a pair of cylindrical portions enlarged relative thereto, the portions of the body between the cylindrical portions being of conical formation and
5 having a series of transverse perforations therethrough to form air inlets for separate mixing with the gas in the respective cylindrical portions of the burner, a burner cap detachably fitted on the upper end of the

body and having a series of rows of perforations therethrough, and a foraminous fabric mounted within the cap.

In testimony whereof, I affix my signature, in presence of two witnesses.

DAVID HAMILTON.

Witnesses:

JAMES WILLIAMSON,
GEORGE T. McCLARRON.

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