

No. 733,235.

PATENTED JULY 7, 1903.

G. MACHLET, JR.
BURNER.

APPLICATION FILED MAR. 31, 1903.

NO MODEL.

Fig. 1.

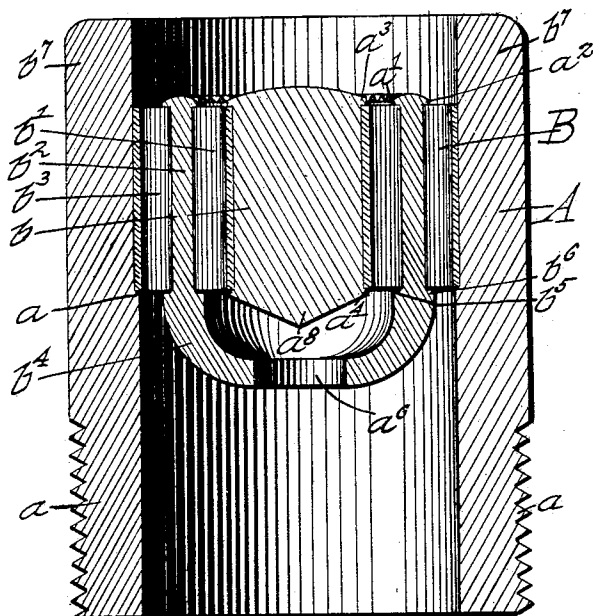


Fig. 2.

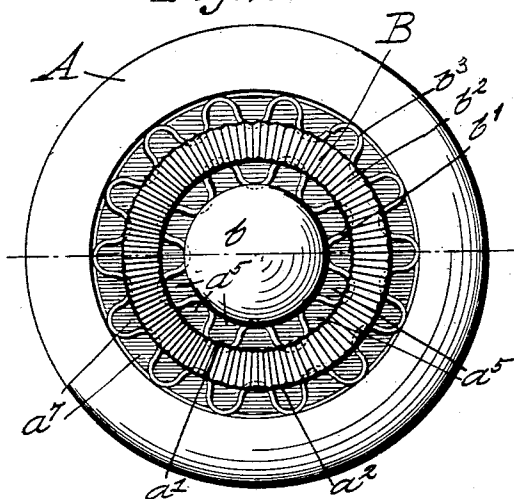
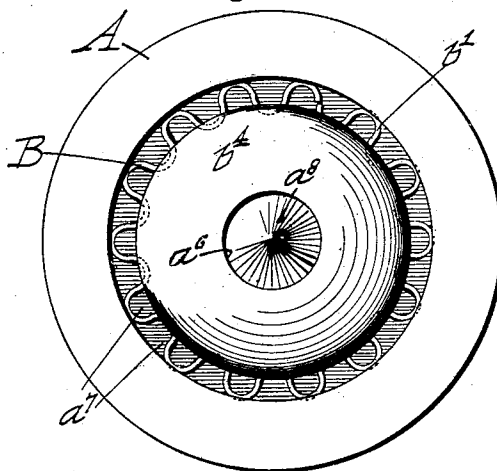


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE MACHLET, JR., OF ELIZABETH, NEW JERSEY.

BURNER.

SPECIFICATION forming part of Letters Patent No. 733,235, dated July 7, 1903.

Application filed March 31, 1903. Serial No. 150,383. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MACHLET, JR., a citizen of the United States, residing in Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Burners, of which the following is a specification.

The object of this invention is to provide a burner-screen yielding a flame of greater pressure and speed at the exterior or outermost portions than at the interior portions.

For this purpose the invention consists of a burner-screen composed of a plurality of annular members secured together and affording between them spaces for the passage of a combustible gas, a closed plug at the center of said annular members, and a draft-crown connected with one of said annular members and adapted to control the supply of combustible between the annular members within the same.

The invention consists, further, in certain details of construction and combinations of parts, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a vertical central section of a burner provided with my improved screen. Fig. 2 is a top view of the burner shown in Fig. 1, and Fig. 3 is a bottom view of the same.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A indicates the burner-tube, and B the screen. The burner-tube may be of any suitable construction and is preferably provided with an annular shoulder a , forming a seat for the screen, and with a screw-thread a' for attachment of the burner to any suitable source of supply of combustible gas. The burner-screen B is composed of a central plug b , an inner corrugated annular member b' , an intermediate plane cylindrical member b^2 , and an outer corrugated annular member b^3 . To the intermediate member b^2 is connected the crown b^4 . Said crown is at its base preferably of greater thickness than the body portion of the intermediate member b^2 , thereby affording an interior annular shoulder b^5 and an exterior annular shoulder b^6 , which, in connection

with a series of projections $a' a^2$, respectively, at the interior and exterior upper edges of said intermediate member b^2 , serve to retain the corrugated members against longitudinal shifting relatively to the intermediate member. The central plug b is a closed plug and is provided at its upper portion with a flange a^3 and at its lower portion with a flange a^4 , said flanges being so located as to receive between them the inner corrugated member b' . The plug is preferably coned at its lower extremity, whereby the more effectively to direct the combustible gas toward the screen-passages a^5 , formed by the inner corrugated member, the plug b , and the intermediate member b^2 . The crown b^4 extends from its base downwardly and inwardly in crown shape, thereby embracing within its base said passages a^5 . The crown is provided in its extent with an opening a^6 , preferably located centrally and in opposition to the plug b . The size of said opening is such as to permit entrance within the crown of a less quantity of combustible gas for supply to the passages a^5 than would normally be supplied to said passages were said crown omitted. The result of this construction is that while nevertheless an even and constant flame issues from the upper ends of the spaces a^5 said flame is under less pressure than the flame issuing from the spaces a^6 of the outer corrugated member b^3 . The cone a^8 of the plug b aids in the uniform distribution of the incoming gas within the crown to the spaces a^3 and reduces wavering of the flame. The crown b^4 and cone a^8 form a heating-chamber, within which the gas for said passages is subjected to a preliminary heating and is therefore brought to the point of combustion in a more highly heated and more rarefied state than the gases issuing from the passages a^7 . The cone a^8 specially facilitates the use of air and gas under high pressure and the obtaining thereby of an intense heat. The exterior rim b^7 , formed by that portion of the burner-tube extending above the screen, protects the flame against ingress of the exterior air and produces a steady and reliable burning. The openings a^5 may be made larger or smaller than shown for strengthening or diminishing the interior portion of the flame.

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

1. A burner-screen, consisting of a plurality of annular members affording between them passages for a combustible gas, and a crown connected with one of said members and controlling the supply of combustible gas to the passages within the same, substantially as set forth.

2. A burner-screen, consisting of a plurality of annular members affording between them passages for a combustible gas, and a crown connected with an intermediate member and controlling the supply of combustible gas to the passages within the same, substantially as set forth.

3. A burner-screen, consisting of a plurality of annular members affording between them passages for a combustible gas, and a crown connected with an intermediate member and extending at the bottom of the screen for controlling the supply of combustible gas to certain of said passages, substantially as set forth.

4. A burner-screen, consisting of a plurality of annular members affording between them passages for a combustible gas, a crown

connected with one of said members and extending over the passages within the same, and an opening in said crown permitting the entrance within the same of a reduced quantity of combustible gas, substantially as set forth.

5. A burner-screen, consisting of a plurality of annular members affording between them passages for a combustible gas, a coned plug at the center of said screen, and a crown connected with one of said members and provided with an opening opposite the cone of said plug, substantially as set forth.

6. A burner-screen, consisting of a plurality of annular members affording between them passages for a combustible gas, a crown connected with one of said members and controlling the supply of combustible gas to the passages within the same, and an exterior burner-tube extending above said screen, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GEORGE MACHLET, JR.

Witnesses:

PAUL GOEPEL,

HENRY J. SUHRBIER.