No. 745,872. PATENTED DEC. 1, 1903.

G. MACHLET, JR.

BURNER.

APPLICATION FILED OCT. 1, 1903.

NO MODEL.

Fig: 1.

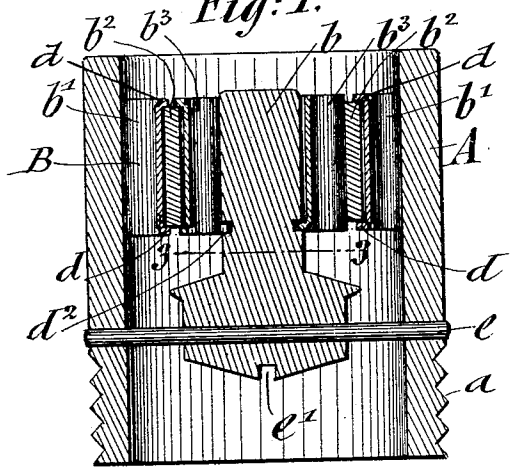


Fig: 2.

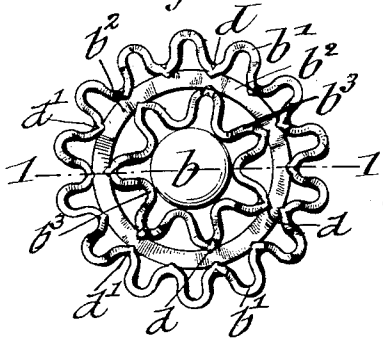


Fig: 5.

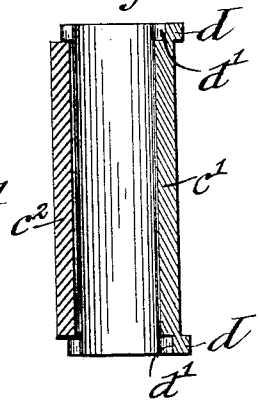


Fig: 3.

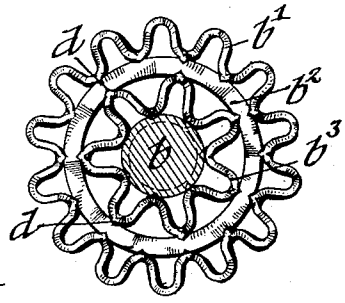
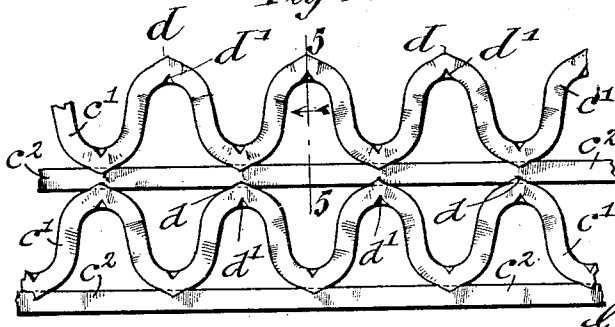


Fig: 4.



WITNESSES

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No. 745,872. Patented December 1, 1903.

UNITED STATES PATENT OFFICE.

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

BURNER.

SPECIFICATION forming part of Letters Patent No. 745,872, dated December 1, 1903.

Application filed October 1, 1903. Serial No. 175,280. (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.

This invention relates to an improved fastening means for the members of a burner-screen. Such a screen is shown in Letters Patent No. 733,236, issued to me July 7, 1903.

The object of the invention is to provide a fastening means affording even a less obstruction to the flow of gas than is caused by the use of the projections shown in said patent—in fact, to provide a fastening means which offers practically no obstruction whatsoever to the free movement of gas into, through, or out of the passages between the members of the screen.

For this purpose the invention consists of a burner-screen comprising a plurality of plain and corrugated annular members affording between them passages for a combustible and projections at the apices of the undulations of the corrugated members engaging the adjacent plain member or members.

In the accompanying drawings, Figure 1 represents a vertical central section through a burner constructed according to my invention, the screen being taken on line 1 1, Fig. 2. Fig. 2 is a top view of the burner-screen. Fig. 3 is a bottom view of the screen, partly in horizontal section on line 3 3, Fig. 1. Fig. 4 shows in plan view, on an enlarged scale, the construction of the engaging members; and Fig. 5 is a vertical transverse section on line 5 5, Fig. 4.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A indicates the burner-tube, which is provided at its lower portion with a screw-thread *a* for attachment to any suitable fuel-supply pipe. Within the tube is retained, either frictionally or otherwise, a screen B, composed of a central plug *b* and alternating plain and corrugated annular members b' b^2 b^3. By the corrugation of the members b' b^3 a series of passages are provided for the passage of the combustible gas. For securing the members b' b^2 b^3 together the corrugated members are provided at the apex of each or of some of the corrugations with a projection *d*. The corrugated members are made of slightly-greater height than the annular member b^2, and the projections *d* are stamped out of the excess and extend into engagement with the plain member b^2—*i. e.*, extend beyond the upper and lower edges of the same—so that said member is located between projections *d* at the top and bottom of the corrugated members. Said projections are arranged at the apices of the corrugations, as at this point the members contact or are so intimately adjacent that no obstruction to the free flow of gas is caused by the bridging of the projection *d* into the vertical plane of the annular member. Security of the members is thereby attained by a minimum of projections and without any projection extending into the gas-current whatever be the relative circumferential position which the two members may have.

The construction is illustrated in detail in Fig. 4, in which corrugated and plain members c' c^2 are shown straight in arrangement. They may be thus arranged in the burner, if desired. The projections are preferably formed by stamping the same out of the metal at the apex of each undulation. A recess d' is left at the inner or opposite side of the corrugation. The formation of the projections is thereby effected without increase of the surface area at the top of the screen.

The projections may be formed one at each apex or crest only of each undulation, as in Fig. 2. This construction is sufficient in case a single intermediate member b^2 is employed in the screen. In case a larger number of members are employed projections *d* are formed not only at the crest, but also at the hollow of each undulation of each corrugated member, so that said member being located between two plain members, as shown in Fig. 4, engages both. For engaging the central plug *b* the projections need be formed only upon either the bottom or the top of the member b^3, as indicated at d^2 in Fig. 1, said projections engaging in a suitable annular groove formed in the plug.

The plug has a conical enlargement at its lower portion, so as to break up the center of the combustible mixture and spread the same to the wall of the burner-tube. A pin *e* is

inserted through the burner-tube A and the plug for retaining the plug, and thereby the screen, in position in the tube. A notch *e'* at the lower end of the plug permits turning of the same by a screw-driver or other suitable tool for alining the opening in the plug with the openings in the burner-tube for inserting the pin.

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 plain and corrugated members, and means on the corrugated members for positively engaging the plain members, substantially as set forth.

2. A burner-screen, consisting of a plurality of plain and corrugated members, and projections at apices of the corrugated members for positively engaging the plain members, substantially as set forth.

3. A burner-screen, consisting of a plurality of plain and corrugated annular members, projections at the apices of the corrugated members for positively engaging the plain members, a plug, and projections at the apices of the inner corrugated member engaging said plug, substantially as set forth.

4. A burner-screen, consisting of a plurality of members, and engaging projections stamped out of one member, at the edge of the same, into the plane of another, without increase of screen-surface, 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:
HENRY J. SUHRBIER,
PAUL GOEPEL.