No. 849,255. PATENTED APR. 2, 1907.

P. MISCHKE.

BURNER.

APPLICATION FILED SEPT. 18, 1906.

Fig. 1.

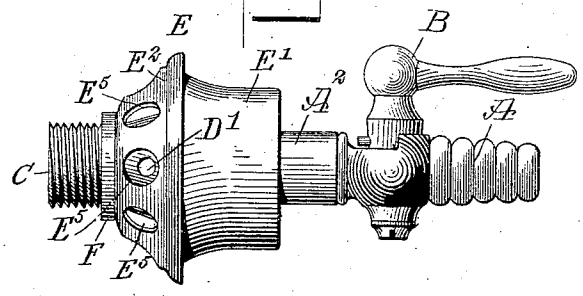


Fig. 2.

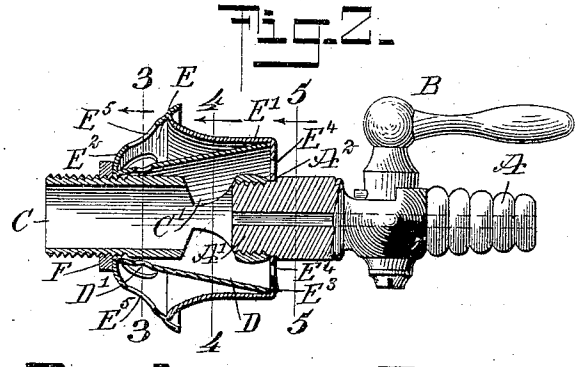


Fig. 3.

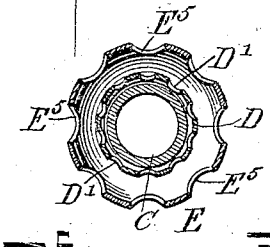


Fig. 4.

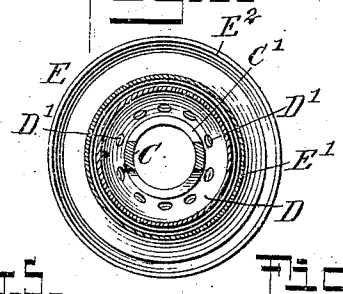


Fig. 6.

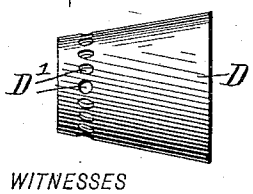


Fig. 5.

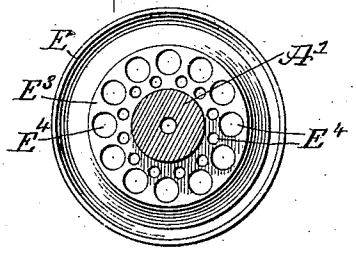
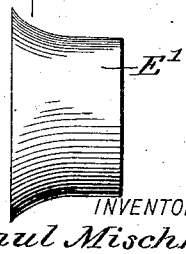


Fig. 7.



WITNESSES

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BURNER.

No. 849,255. Specification of Letters Patent. Patented April 2, 1907.

Application filed September 18, 1906. Serial No. 335,071.

To all whom it may concern:

Be it known that I, PAUL MISCHKE, a citizen of the United States, and a resident of East Rutherford, in the county of Bergen and State of New Jersey, have invented a new and Improved Burner, of which the following is a full, clear, and exact description.

The invention relates to gas-stoves, incandescent gas-burners, and like devices in which a mixture of gas and air is burned.

The object of the invention is to provide a new and improved burner arranged to prevent the undesirable backflash, especially when lighting the burner, and to insure a proper mixture of the gas and air, and hence the production of a powerful flame.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement. Fig. 2 is a longitudinal sectional side elevation of the same. Fig. 3 is a transverse section of the same on the line 3 3 of Fig. 2. Fig. 4 is a like view of the same on the line 4 4 of Fig. 2. Fig. 5 is a similar view of the same on the line 5 5 of Fig. 2. Fig. 6 is a side elevation of the inner air-chamber, and Fig. 7 is a side elevation of the rear section of the outer air-chamber.

The gas-supply pipe A is provided with the usual gas-cock B, and its forward end terminates in a nipple or jet A′, discharging the gas centrally into a mixing-tube C, screwed or otherwise secured to the gas-supply pipe A, the said mixing-tube delivering the mixture of gas and air to the burner proper. The jet A′ is located approximately opposite the air inlets or ports C′, formed in the side wall of the mixing-tube C, and the said air inlets or ports C′ open into an inner air-chamber D, preferably made conical and surrounded by a second or outer chamber E, consisting of a cup-shaped rear section E′ and a forward section E^2 and of which the end E^3 of the rear section is seated on a shoulder A^2 of the nipple A′, while the forward section E^2 is seated on a nut F, screwing on the forward end of the mixing-tube C.

The inner chamber D is formed of a conical tubular section D^2, whose base is seated on the end E^3 of the rear section E′, and this end E^3 is provided with apertures E^4 to allow air to enter the air-chamber D in the rear of the air inlets or ports C′. The forward section E^2 of the outer air-chamber E is provided at its forward end with air-inlets E^5, and the said forward section E^2 is also cup-shaped, but arranged in the reverse direction to the secton E′, the open end of which fits the open end of the forward section E^2. The side wall of the inner chamber D is provided near its apex end with apertures D′ for the passage of air from the outer air-chamber E to the inner air-chamber D at a point somewhat in advance of the air inlets or ports C′. Now when the gas-cock B is opened the gas passes through the jet A′ centrally into the mixing-tube C, and thus draws air from the air-chamber D by way of the air inlets or ports C′ into the mixing-chamber C for the air to mix with the gas, and thus form a combustible mixture. Now as the air can readily enter the inner air-chamber D both in advance and in the rear of the ports or inlets C′ it is evident that a sufficient quantity of air always flows into the chamber D to supply all the air necessary for forming a combustible mixture of air and gas in the mixing-chamber C and for preventing backflash. It will also be noticed that by the arrangement shown and described air can readily pass from opposite directions to the air-inlets C′, and as the outer chamber E surrounds the inner chamber D it is practically forms a hood for the same, and consequently aids in preventing backflash.

In practice the parts D^2, E′, and E^2 may be soldered or otherwise fastened together to form a double air-chamber, which can be readily slipped into position and fastened therein by the nut F.

The device is very simple and can be readily applied to the various burners for gas-stoves, incandescent gas-burners, and the like as now constructed.

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

1. A burner, comprising a nipple provided with a shoulder, a mixing-tube secured to the nipple in alinement therewith, said tube being externally threaded and provided with air-inlets at its inner end, a nut on the said tube, a cup-shaped section having an inwardly-extending and apertured flange seated on the shoulder of the nipple, a for-

ward section secured to the cup-shaped section and seated on the nut of the mixing-tube, said outer section being apertured, and a conical section secured within the cup-shaped section and outer section with its base seated on the flange of the said cup-shaped sections and forming with the said sections and the mixing-tube inner and outer chambers, one surrounding the other, the apex end of the conical section being apertured.

2. A burner, comprising a mixing-tube adapted to be secured to the nipple in alinement therewith and provided with air-inlets at its inner end, a cup-shaped section having an inwardly-extending and apertured flange, an outer apertured section secured to the cup-shaped section and to the mixing-tube, and a conical section securedwith in the cup-shaped and outer sections with its base engaging the flange of the said cup-shaped section and forming therewith and with the mixing-tube inner and outer chambers, said conical section being provided with openings near its apex end.

3. In a burner, a mixing-tube having its inner end internally threaded and its outer end externally threaded, said tube being provided with air-inlets at its inner end, a cup-shaped section having a flange provided with a central opening and smaller openings around the central opening an apertured outer secton secured to the cup-shaped section and having a central opening to receive the mixing-tube, a nut on the mixing-tube in engagement with the said outer section, and a conical section secured within the cup-shaped and outer sections with its base engaging the flange of the said cup-shaped section and forming with said sections inner and outer air-chambers, the conical section being provided with openings at its apex end.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PAUL MISCHKE.

Witnesses:
HENRY P. STEINBERG,
CLAUS AHRENS.