

M. DEAN.
GAS BURNER.

APPLICATION FILED MAY 29, 1909.

Patented Aug. 23, 1910.

368,032.

Fig. 1.

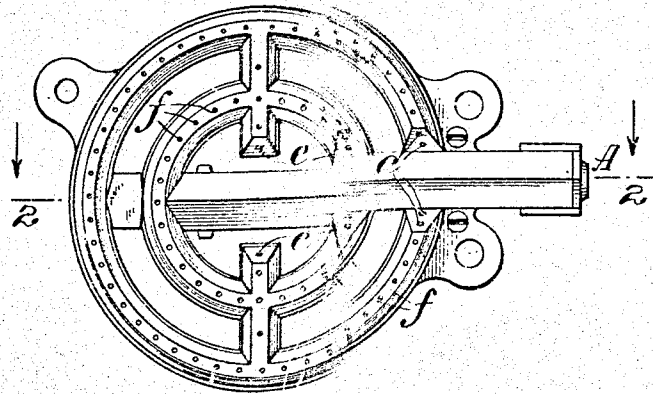


Fig. 2.

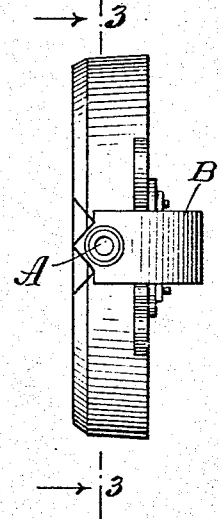


Fig. 3.

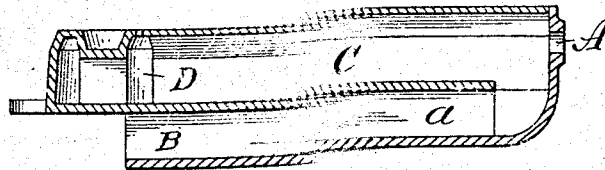


Fig. 4.

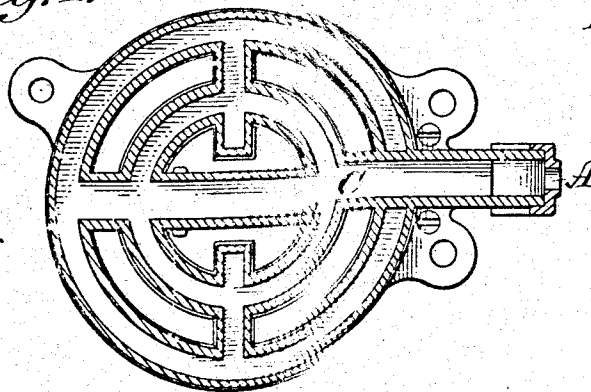
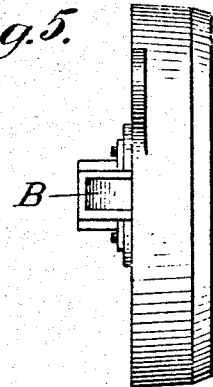


Fig. 5.



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UNITED STATES PATENT OFFICE.

MARK DEAN, OF NEW YORK, N. Y.

GAS-BURNER.

968,032.

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To all whom it may concern:

Be it known that I, MARK DEAN, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

My invention relates primarily to that class of gas burners which are used with gas ranges and is intended to do more work with a given amount of gas than has heretofore been possible. It is a well known fact that the same quantity of gas ignited at a burner will give off more heat if the gas itself is preheated instead of being delivered at a normal temperature and it is also the case that if the air which is to be fed to the burner is heated before it comes in contact with the gas with which it is to be mixed, more heat is produced by the burner flame than where the air is simply at room temperature when mixed with the gas. To produce this increased heat of the flame and consequent economy in gas I have devised a burner of such construction that the incoming air has to pass through a heated passageway before it mingles with the gas and the mixture of air and gas has to pass through a heated passage before it is introduced into the distributing chambers of the burner. As these chambers themselves rapidly become hot, the gas which escapes from the orifices after the burner has been going for some time, is already highly heated before it enters the flame.

My invention therefore consists broadly of a gas burner provided with an air inlet passage, a gas inlet passage, and a distributing chamber and provided with suitable discharge orifices; so arranged that the incoming air has to traverse a heated passage before it mingles with the gas and that the mixed air and gas have to travel through a heated passage before they reach distributing chambers said chambers themselves becoming highly heated during the operation of said burner.

In the accompanying drawings; Figure 1 is a top view of one form of my improved burner. Fig. 2 is a front view thereof. Fig. 3 is a longitudinal section through the center of the burner. Fig. 4 is a horizontal

section through the center of the burner. Fig. 5 is a rear view.

Same letters indicate similar parts in the different figures.

A is the gas inlet, which is at the front of the burner.

B is the fresh air inlet at the rear of the burner so that the entering air has to pass through the passageway *a* to the front of the burner before it enters the passageway C which serves as a mixing chamber for the air and gas and leads to the distributing chambers D, D, by which it is distributed to the various orifices *e, e*. It will thus be seen that the air passes twice across the burner and the air passes once across the burner before the mixed air and gas enter the distributing chambers.

Of course when the burner is first turned on and ignited, the burner is cold but a number of the orifices namely those marked *e, e*, are at right angles to the surface in which they are drilled thus throwing the flame parallel to the roof of the mixing passage C thus raising it to an intense heat while the other orifices, namely those marked *f, f*, deliver their flame upwardly against the heater or other desired portion of the range with which said burner is used. After a short while the entire burner becomes highly heated and then the desired effect of preheating the air and gas is best effected. The advantage of this burner will be readily appreciated by all those who have used gas ranges.

I claim:

A gas burner which consists of an annular distributing chamber provided with a multiplicity of vertical discharge orifices and a number of lateral discharge orifices, a mixing passage leading thereto, a gas inlet passage opening into said mixing passage and an air inlet passage running under said mixing passage and opening into said gas inlet passage; so arranged that the air becomes heated before it mixes with the gas and the mixed air and gas are further heated before they enter the distributing chamber.

MARK DEAN.

Witnesses:

W. P. PREBLE, Jr.,
HELEN G. MURPHY.