April 30, 1929. T. A. SALA 1,710,841

GAS BURNER

Filed Aug. 27, 1927 6 Sheets-Sheet 1

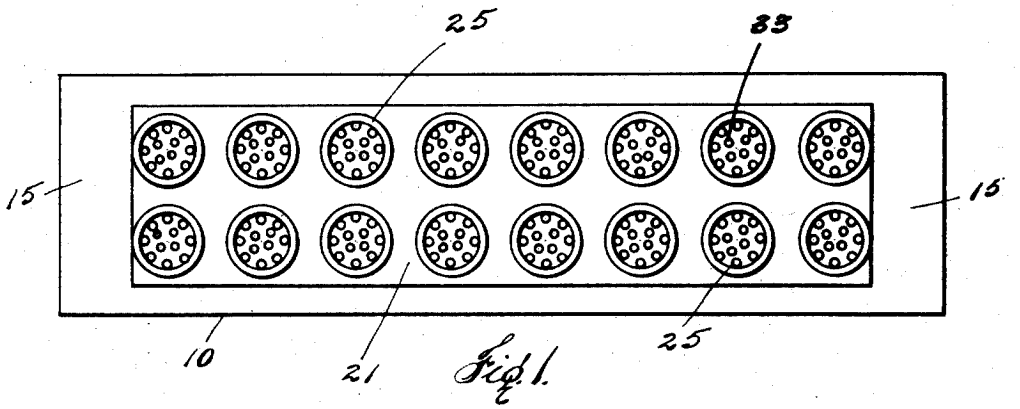

Fig. 1.

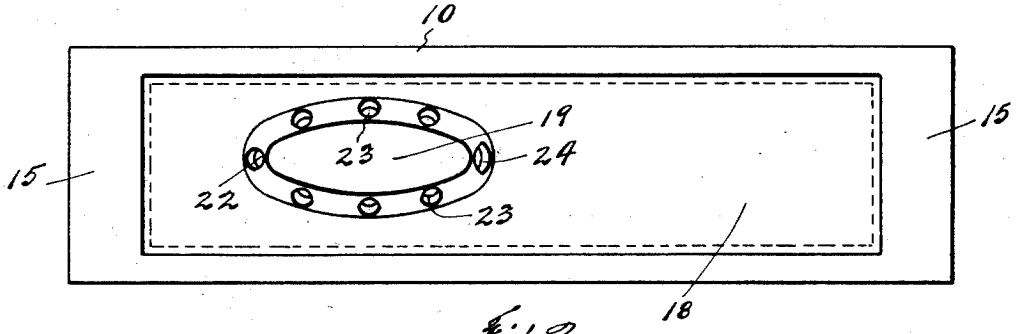

Fig. 2.

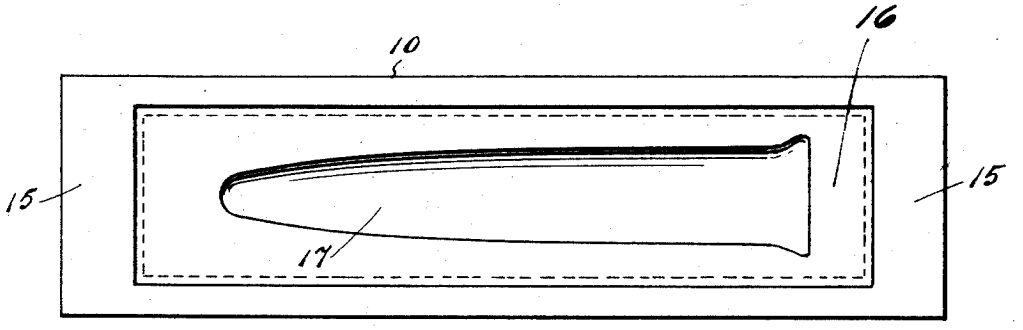

Fig. 3.

Inventor
T. A. Sala.
Jack & Schley

By

Attorney

April 30, 1929. T. A. SALA 1,710,841

GAS BURNER

Filed Aug. 27, 1927 6 Sheets-Sheet 2

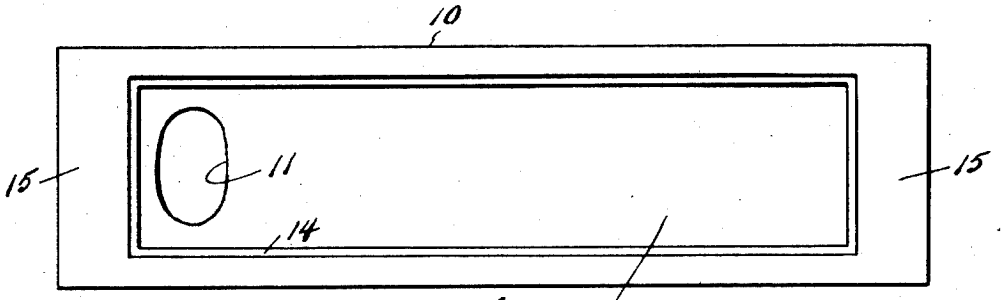

Fig. 4.

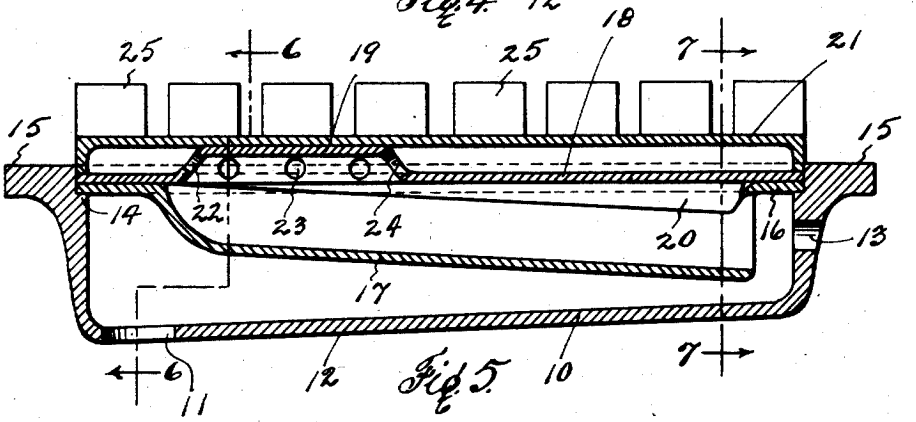

Fig. 5.

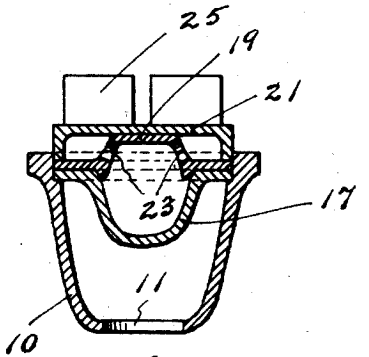

Fig. 6.

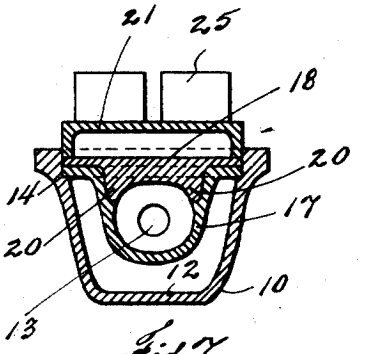

Fig. 7.

Inventor
T. A. Sala.
Jack B. Ashley
By
Attorney

April 30, 1929. T. A. SALA 1,710,841

GAS BURNER

Filed Aug. 27, 1927 6 Sheets-Sheet 3

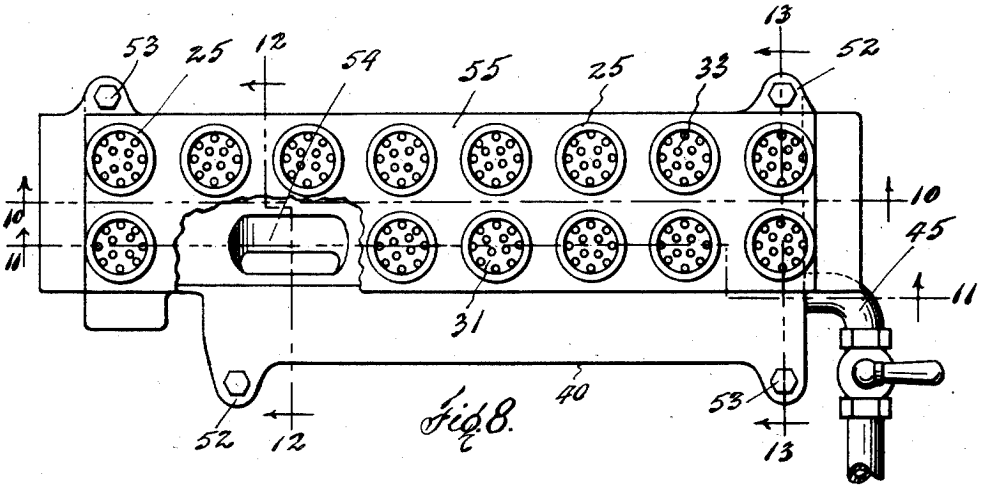

Fig. 8.

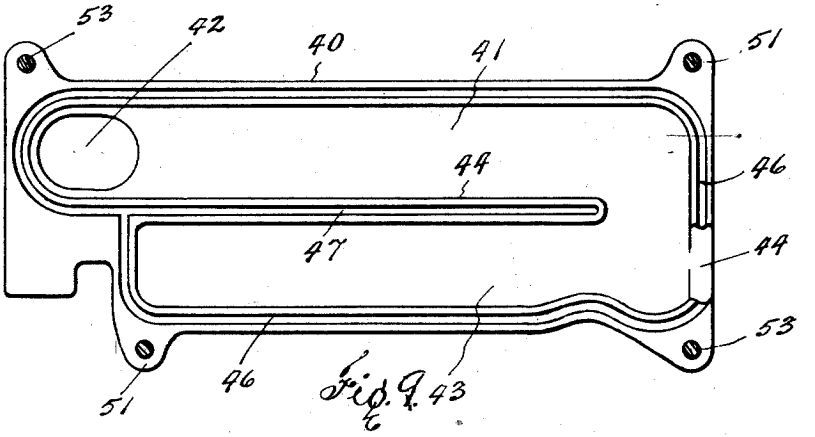

Fig. 9.

Inventor
T. A. Sala.

By

Attorney

April 30, 1929. T. A. SALA 1,710,841

GAS BURNER

Filed Aug. 27, 1927 6 Sheets-Sheet 4

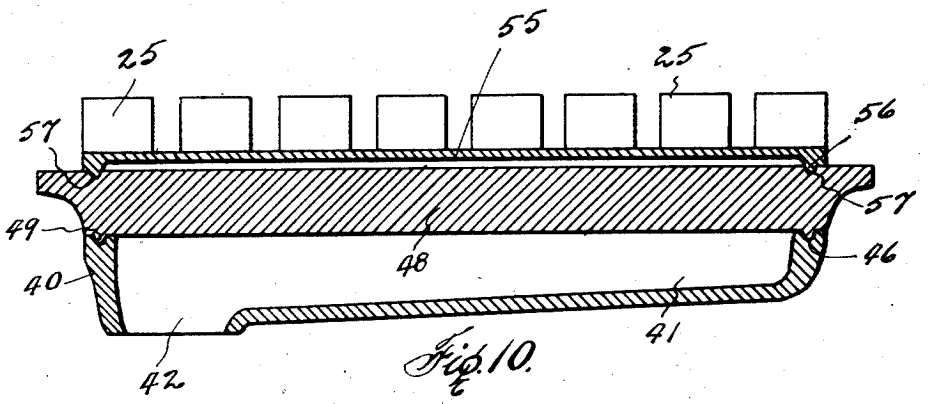

Fig. 10.

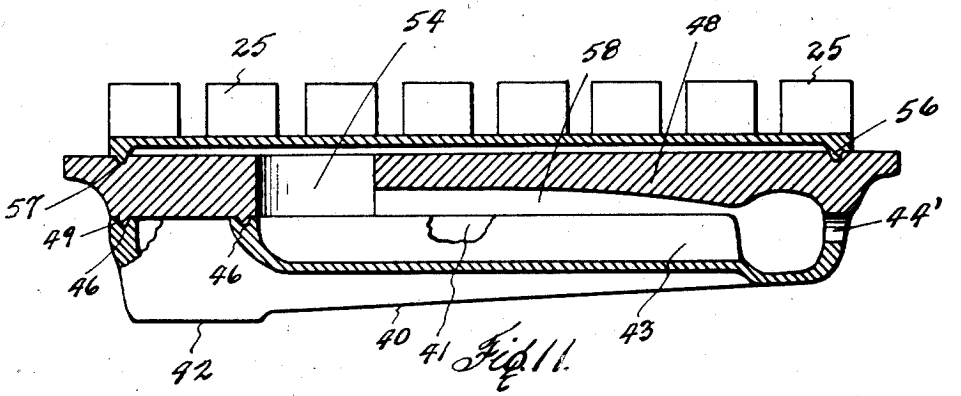

Fig. 11.

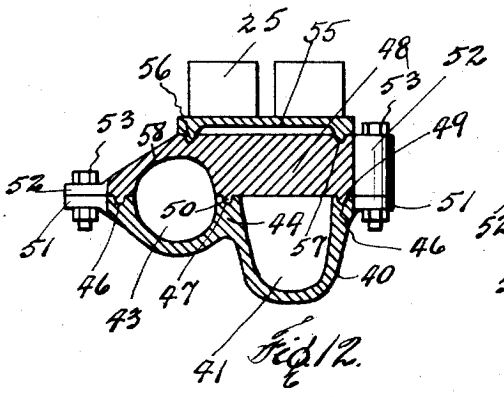

Fig. 12.

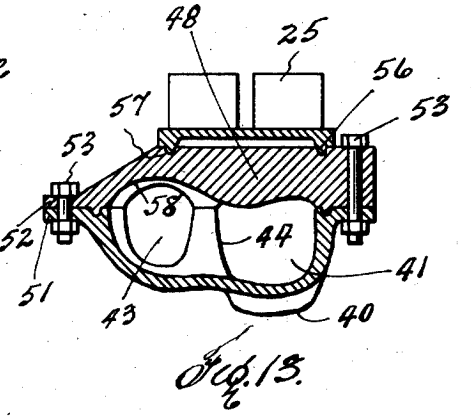

Fig. 13.

Inventor
T. A. Sala.

By Jackd. Ashley

Attorney

April 30, 1929. T. A. SALA 1,710,841

GAS BURNER

Filed Aug. 27, 1927 6 Sheets-Sheet 5

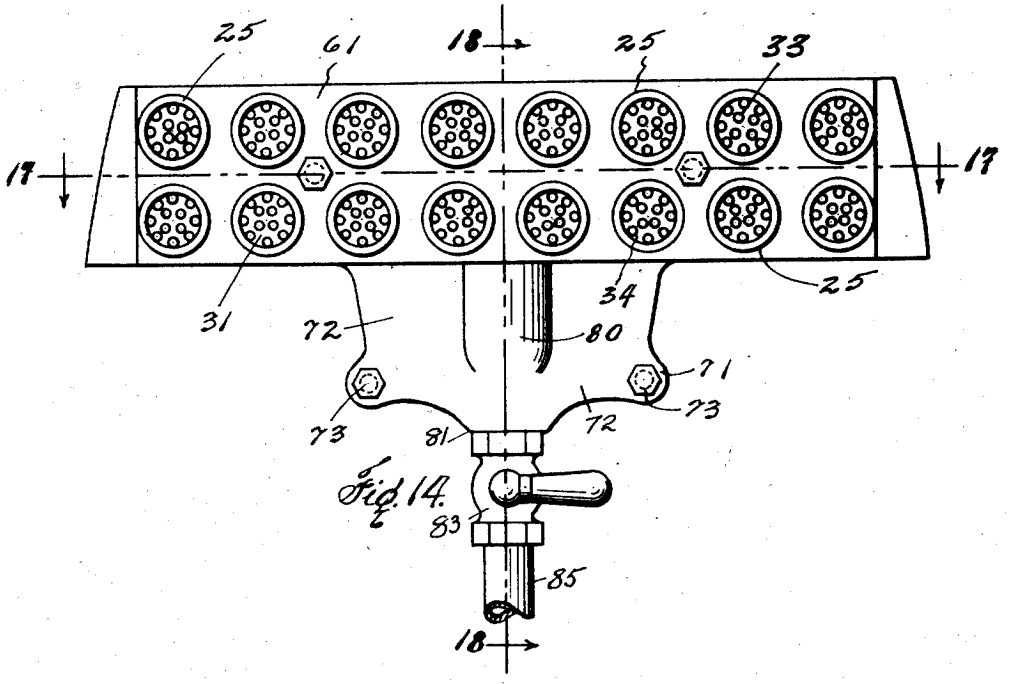

Fig. 14.

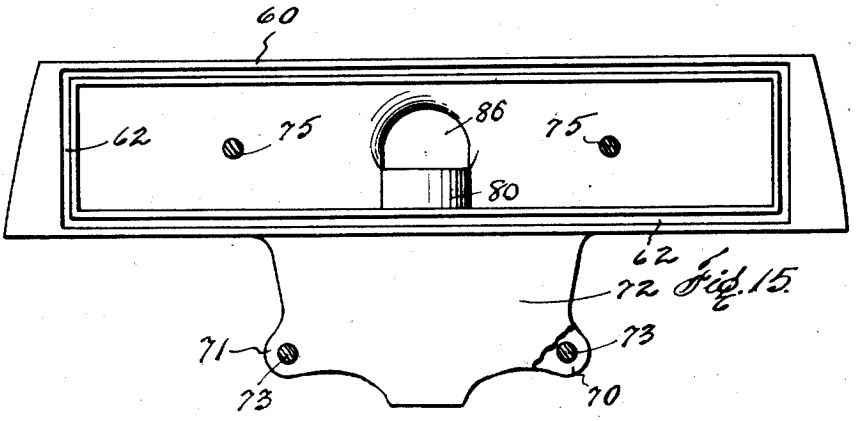

Fig. 15.

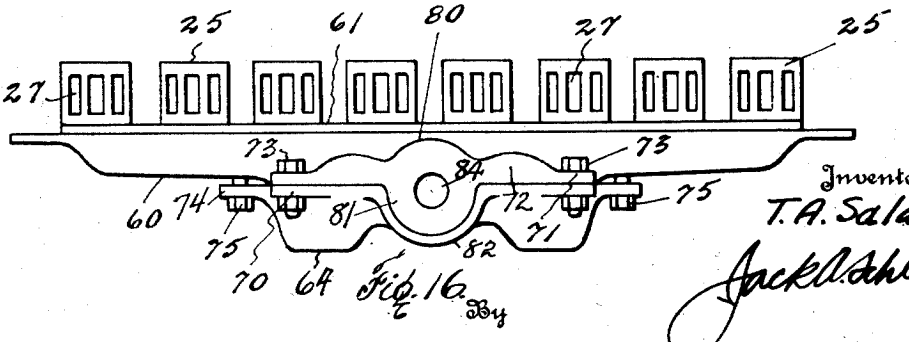

Fig. 16.

Inventor
T. A. Sala
By Jack A. Ashley
Attorney

April 30, 1929. T. A. SALA 1,710,841

GAS BURNER

Filed Aug. 27, 1927 6 Sheets-Sheet 6

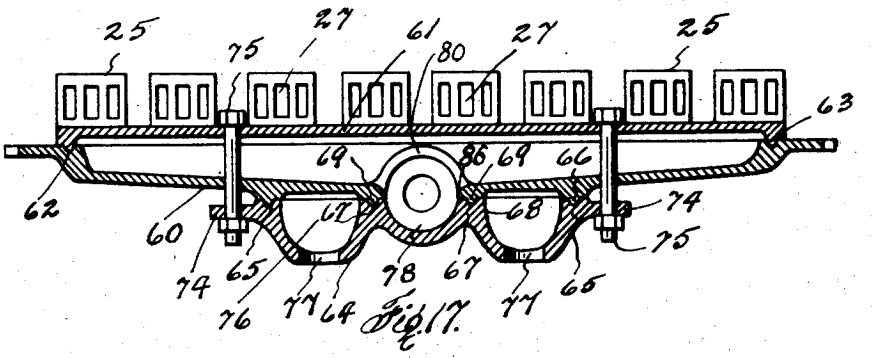

Fig. 17.

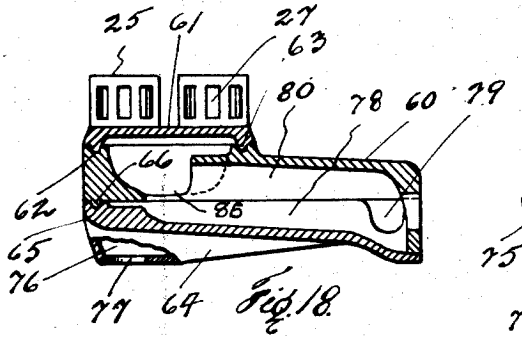

Fig. 18.

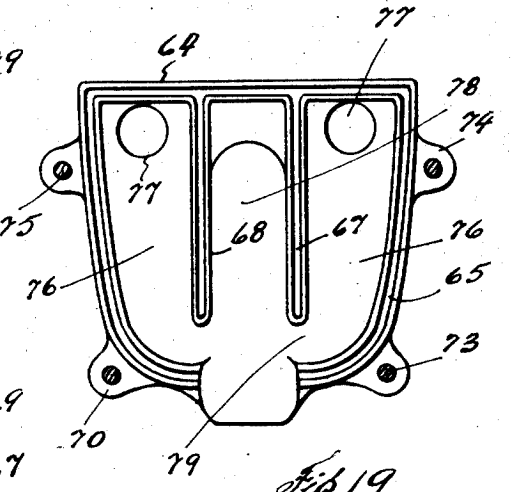

Fig. 19.

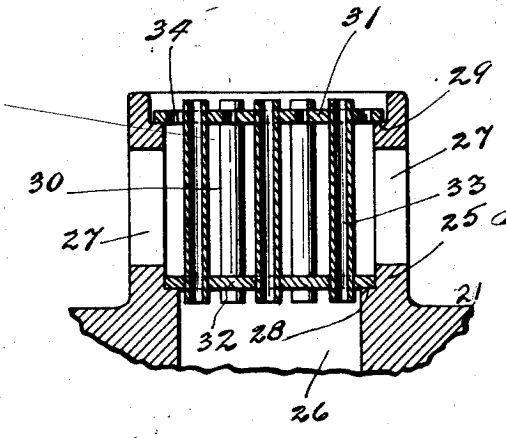

Fig. 20.

Inventor
T. A. Sala.
Jack d. Schley
By
Attorney

Patented Apr. 30, 1929. 1,710,841

UNITED STATES PATENT OFFICE.

THEODORE A. SALA, OF DALLAS, TEXAS.

GAS BURNER.

Application filed August 27, 1927. Serial No. 215,836.

This invention relates to new and useful improvements in gas burners.

The principal object of the invention is to provide a burner having means for preheating the air which is admixed with the gas, whereby a more combustible mixture is produced.

Another important object of the invention is to provide means for introducing an auxiliary supply of air to the preheated gas mixture at the point of combustion, whereby a more intense flame is produced and the consumption of gas is reduced as well as fumes substantially eliminated.

Another object of the invention is to provide a preheated chamber in which the air is caused to travel a considerable distance before being mixed with the gas, thus giving it an opportunity to become thoroughly preheated.

A further object of the invention is to constructed the burner in a number of parts which may, in some forms, be readily cast without the use of cores and which parts may be easily assembled and secured together in a simple manner.

A still further object of the invention is to provide burner units of a simple nature arranged to be readily removed from the burner structure and designed to co-operate in the auxiliary introducing of air.

A construction designed to carry out the invention will be hereinafter described, together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown and wherein:

Fig. 1 is a plan view of the burner assembly constructed in accordance with my invention,

Fig. 2 is a similar view with the upper or top section of the manifold removed,

Fig. 3 is also a plan view, both the top section and the distributor being omitted,

Fig. 4 is a plan view of the lower or bottom section of the burner assembly,

Fig. 5 is a longitudinal vertical sectional view,

Fig. 6 is a transverse vertical sectional view taken on line 6—6 of Fig. 5,

Fig. 7 is a transverse vertical sectional view taken on the line 7—7 of Fig. 5.

Fig. 8 is a plan view of another form in which the invention may be carried out, a portion of the top section being broken away to show the fuel opening,

Fig. 9 is a plan view of the lower section of the burner assembly,

Fig. 10 is a longitudinal sectional view taken on the line 11—11 of Fig. 8,

Fig. 11 is a longitudinal sectional view taken on the line 11—11 of Fig. 8,

Fig. 12 is a transverse sectional view taken on the line 12—12 of Fig. 8,

Fig. 13 is a transverse sectional view taken on the line 13—13 of Fig. 8,

Fig. 14 is a plan view of the burner assembly,

Fig. 15 is a similar view with the upper section of the manifold removed,

Fig. 16 is a front elevation of the burner assembly,

Fig. 17 is a longitudinal vertical sectional view taken on the line 17—17 of Fig. 14.

Fig. 18 is a transverse vertical sectional view taken on the line 18—18 of Fig. 14,

Fig. 19 is a plan view of the mixing chamber, and

Fig. 20 is an enlarged detail of one of the air introducing bosses and burner units.

In the drawings the numeral 10 designates the lower or bottom section of an elongated manifold. The said lower section has an air inlet opening 11 in one end of its bottom 12, which latter inclines upwardly toward the opposite end and in this latter end is provided a port 13 which may be connected with a suitable gas supply pipe (not shown). The lower section 10 forms the major portion of the manifold in this particular form of the invention and constitutes a preheating chamber.

The lower section has a counter-sunk rectangular shoulder 14 in its upper portion and is also provided with an outwardly directed flange 15 on its top. A flue member comprising a rectangular plate 16 and a flue 17 is seated on the shoulder 14. The flue extends longitudinally of the lower section or chamber 10 and inclines downwardly toward the port 13, its lower end being open and its upper end closed. By observing Figs. 6 and 7, it will be seen that a passage is provided along each side and under the flue.

A distributor or plate 18 rests upon the plate 16 and is provided with an upstanding distributing head 19 disposed over the upper