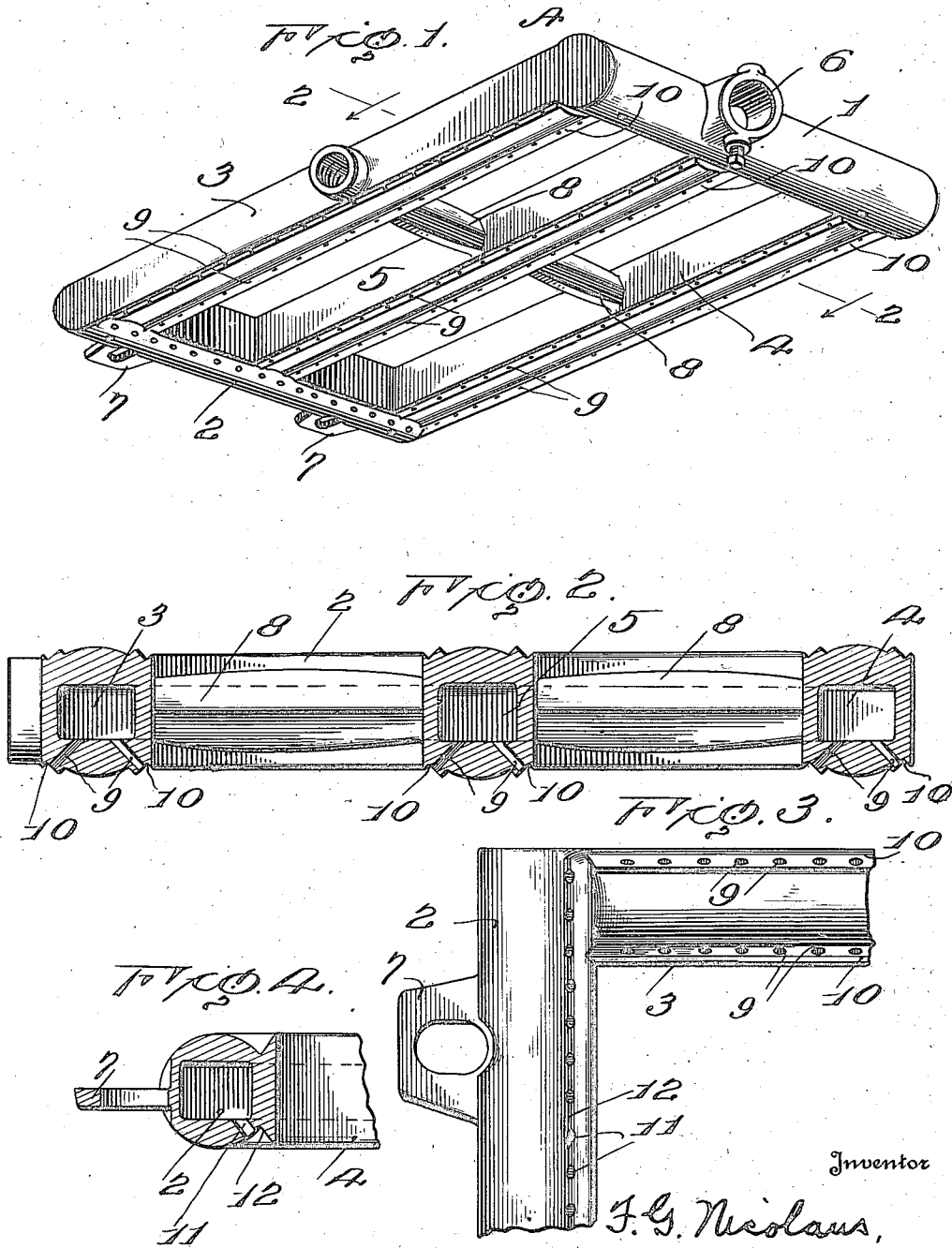


F. G. NICOLAUS.
OVEN BURNER.
APPLICATION FILED FEB. 14, 1921.

1,416,500.

Patented May 16, 1922.



Inventor

F. G. Nicolaus,

By

A. S. Patterson

Attorney

UNITED STATES PATENT OFFICE.

FREDERIC G. NICOLAUS, OF CLEVELAND, OHIO, ASSIGNOR TO AMERICAN STOVE COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

OVEN BURNER.

1,416,500.

Specification of Letters Patent. Patented May 16, 1922.

Application filed February 14, 1921. Serial No. 444,825.

To all whom it may concern:

Be it known that I, FREDERIC G. NICOLAUS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Oven Burners, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in an oven burner, of a construction adapted particularly for use with an oven heat regulator, such as shown and described in the Meacham Patent No. 1,236,335, dated August 7th, 1917.

This invention consists of a gas burner adapted to burn in an inverted position, that is, the burner jets are in the under side of the burner gas conduits and the flame projects downward.

The flow of gas to a burner used with an oven heat regulator, of the type shown in the Meacham patent, is controlled by a thermostatic valve and at times the flow or head of gas is very low and therefore causing a slow leakage of gas through the ports or jets. When the gas flow or pressure is low, I have found that in gas burners of the type heretofore used, that some of the jets do not light but discharge unconsumed gas into the oven.

To overcome the disadvantages of the old type of burner which operates as above described, I have arranged the jets or ports in my burner in a channel which conducts the gas issuing from an unlighted jet, to one which is lighted and thereby causes the gas to flash back to the unlighted jet and cause it to burn at its port.

The object of my invention is to provide a gas burner in which all the jets will be lighted from a pilot no matter how low the gas pressure may be, due to the action of the thermostatically controlled gas valve.

A further object of my invention is to provide a gas burner which is cheap and simple of manufacture, and which is economical and efficient in use.

In the drawings:—

Figure 1 is a perspective view of my improved gas burner showing the arrangement of the jets.

Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1, looking in the direction indicated by arrow.

Fig. 3 is an enlarged plan view of one corner of the burner, showing the arrangement of the jets in the gas conduit across one end of the burner.

Fig. 4 is an enlarged fragmental sectional view through the gas conduit across one end of the burner.

Referring now to the drawings in which like parts are designated by similar reference numerals, A is a gas burner adapted for use in an oven of a gas stove. In the embodiment here shown the burner is rectangular in shape and is provided with two hollow end gas conduits 1 and 2, which comprise the ends of the burner and three hollow gas conduits 3, 4 and 5, which join and are in communication with the end conduits at the ends and centers thereof respectively.

A gas inlet connection 6 is provided in the supply end conduit 1 and the opposite end conduit 2 is provided with ears 7. The burner A is supported in the oven by means of the gas inlet conduit or pipe (not shown) which connects to the burner at 6 and the ears 7, which are suitably fastened to or supported by the oven. To strengthen the burner and to provide against possible warping due to being subjected to sudden heating and cooling, I have provided center braces 8 between the conduits 3, 4 and 5.

The burner jets or ports 9 are in communication with the conduits, as shown, and are located in two parallel rows in the inner side walls of the V-shaped channels 10, which are in each edge of the conduits 3, 4, and 5. The jets 11 in the end conduit 2 are on its inner edge only and are similarly located in a V-shaped channel 12, but in the outer wall of the channel, as shown in Figs. 3 and 4. As clearly shown in Fig. 3, the channels 10 in the conduits 3, 4 and 5, are in communication with the channel 12, in the end conduit 2, while the opposite end supply conduit 1 carries no jets.

By arranging the jets in channels in this manner, I have found that when the burner is operating under a low head or pressure of gas, that if one or more of the jets fails to light the gas will flow along the channel until it reaches a jet that is lighted and there will then take place a flash which will ignite formerly unlighted jets. It will be understood that the burner is in an inverted position in the oven and that any gas escaping from an unlighted jet will rise, being lighter

than the air in the oven, against the bottom of the V-shaped channel into which it is issuing and will flow along this until it reaches a lighted jet, at which time the flash above referred to will take place.

In the preferred form, my burner is cast in one piece, but it will be readily understood that this practice could be departed from and that other changes might be made without departing from the spirit of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. A single burner conduit having a gas conveying channel located in the edge of the outer face of its bottom wall and an exit opening connecting the conduit and the said gas conveying channel, for the purpose described.

2. A single burner conduit having a gas conveying channel formed in the outer face of its bottom wall, and at the edge of said bottom wall, the bottom wall having a gas exit extending at an angle through the bottom towards the side wall of the conduit, whereby the gas flame is projected into unobstructed space beyond the side wall of the conduit.

3. A single burner conduit having two channels formed in the outer face of the bottom wall of the conduit, the respective channels located in the edges of the bottom wall of the conduit, the bottom wall of the conduit having divergently and outwardly extending gas exits communicating with the

channels and with the conduit, whereby the flames from the exits are projected beyond the side walls of the conduit, for the purpose described.

4. A burner having transverse and longitudinal gas conduits, the conduits provided with channels at their edges separated by central raised portions, and exits extending into the channels adjacent the intersection of the raised portions with the channels, for the purpose described.

5. A burner composed of transverse and longitudinal hollow conduits, cast integrally, gas exits adjacent the edges of the conduits, and gas distributing channels formed in the edges of the conduits communicating with the exits, whereby the gas is directed as described.

6. A burner composed of longitudinal hollow conduits having their ends closed and connected by transverse conduits, channels formed in the edges of the outer faces of the conduits, and exits in the conduits communicating with the channels, for the purpose described.

7. A burner composed of transverse and longitudinal hollow conduits, gas exits adjacent the edges of the longitudinal conduits and the inner edge of the transverse conduit, and gas distributing channels formed in the edges of the longitudinal conduits and the inner edge of the transverse conduits, whereby the gas is directed as described.

In testimony whereof I hereunto affix my signature.

FREDERIC G. NICOLAUS.