

Sept. 27, 1932.

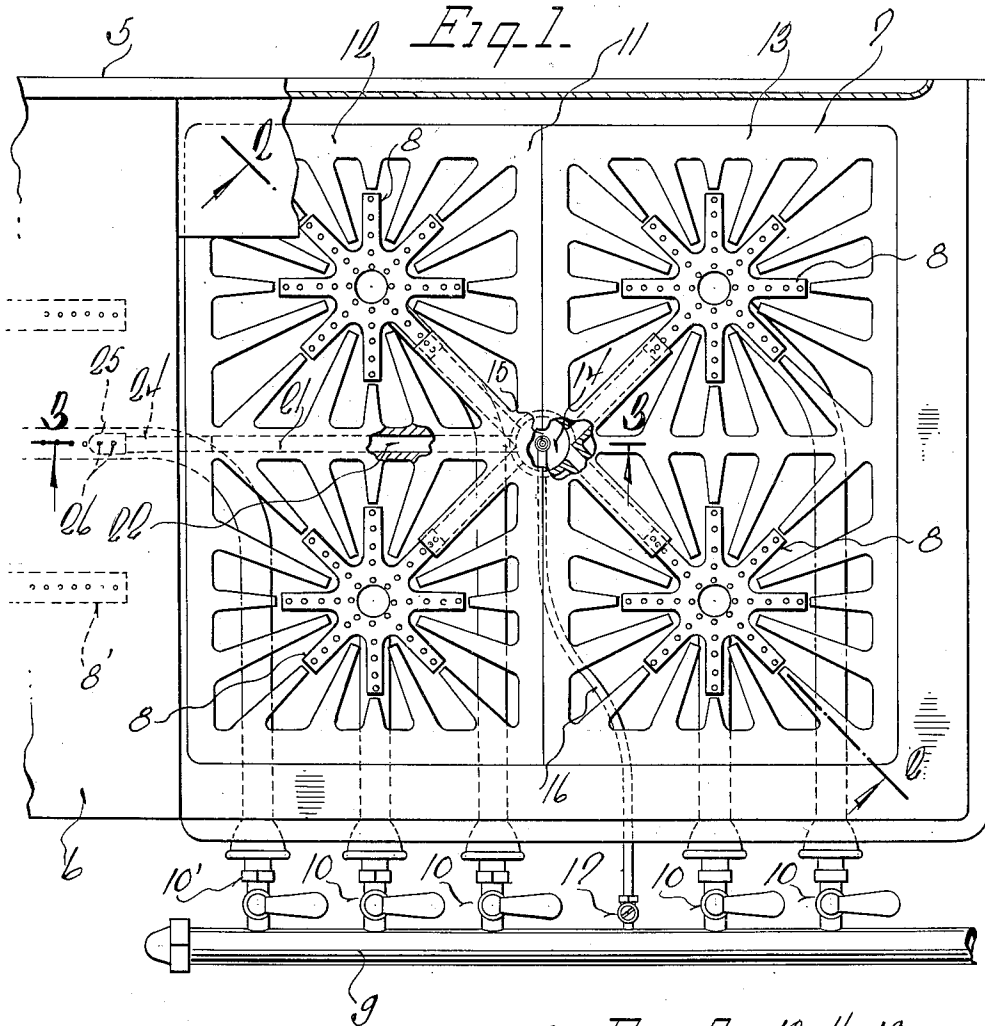
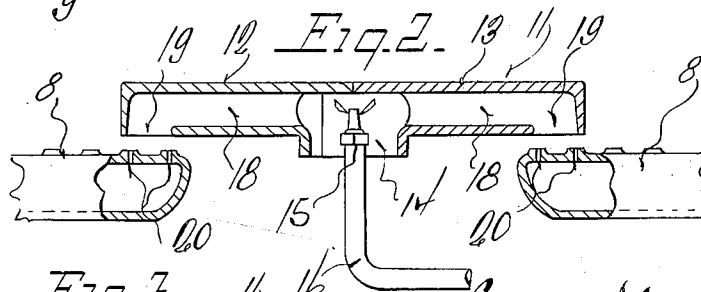
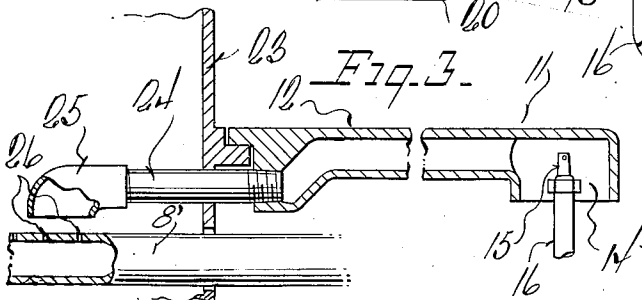
H. E. TOELLE

1,879,776

GAS RANGE

Filed Jan. 2, 1930

2 Sheets-Sheet 1



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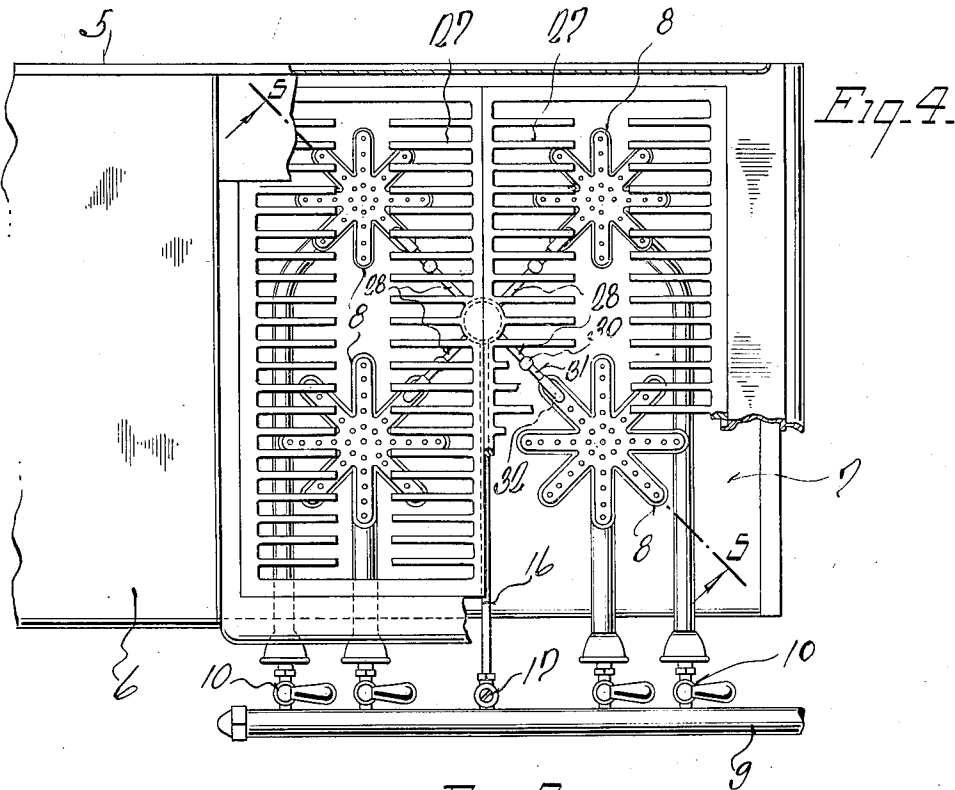
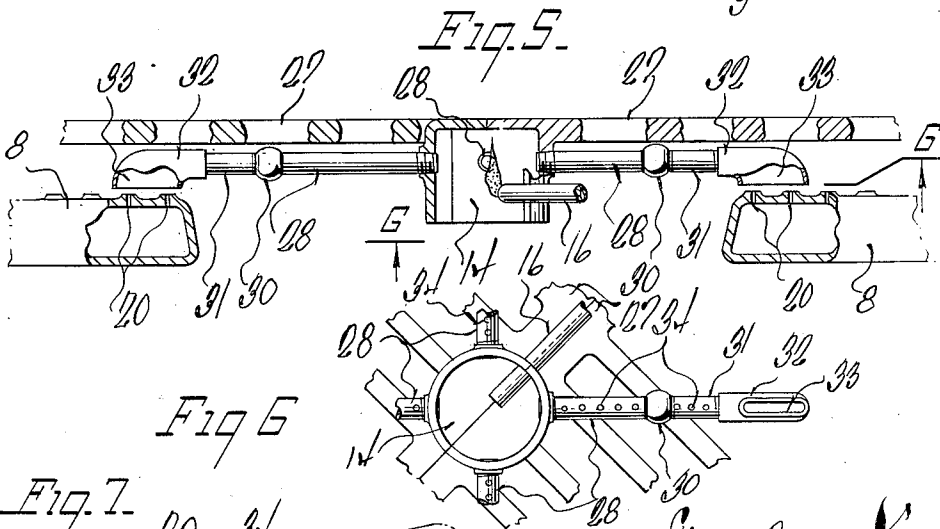
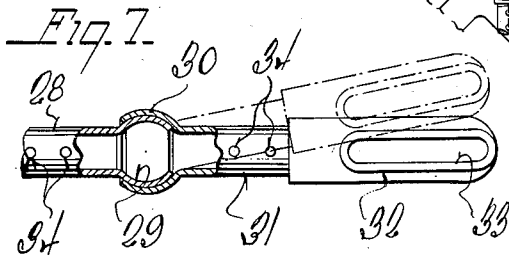
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GAS RANGE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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GAS RANGE

Application filed January 2, 1930. Serial No. 418,012.

This invention relates to certain new and useful improvements in gas ranges and refers more particularly to a pilot system whereby the burners are automatically lit by merely connecting them with the source of fuel supply.

Various methods have been heretofore proposed for automatically lighting the burners of a gas range but the majority of these systems involved complicated mechanism and considerable expense and, therefore, were not well suited for the purpose.

With this and other objections to the existing pilot systems in mind, this invention has as one of its objects the provision of simplified means for conducting a portion of the fuel issuing from a burner, as it is initially connected with its source of fuel supply, with a pilot light to ignite the same and thereby cause the burner to be automatically lit.

Another object of this invention resides in the provision of means for automatically communicating a portion of the fuel issuing from a burner with a pilot light to cause the burner to be automatically lit upon its connection with a source of fuel supply and which means is carried by the usual grill mounted above the burner.

Another object of this invention resides in the provision of a novel grill structure provided with means carried by its several component sections and which together form a pilot light chamber.

A more specific object of this invention resides in the provision of a grill structure adapted to be mounted above a plurality of burners and having a pilot chamber formed therein from which tubular members extend to communicate fuel issuing from the burners with the pilot light chamber, said means of communication being carried by the grill sections to be readily removable therewith.

And a further object of this invention resides in the provision of means for adjusting

the communicating means so as to insure their proper alignment with the burners.

With the above and other objects in view which will appear as the description proceeds, my invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

In the accompanying drawings, I have illustrated two complete examples of the physical embodiment of my invention constructed according to the best modes I have so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a top plan view of the burner compartment of a conventional gas range, equipped with a pilot system constructed in accordance with this invention, portions thereof being broken away to illustrate structural details;

Figure 2 is a sectional view taken through Figure 1 on the plane of the line 2—2;

Figure 3 is a fragmentary, detail, sectional view taken through Figure 1 on the plane of the line 3—3;

Figure 4 is a view similar to Figure 1 of a slightly modified form of my invention;

Figure 5 is a cross sectional view taken through Figure 4 on the plane of the line 5—5;

Figure 6 is a fragmentary bottom view taken on the plane of the line 6—6 of Figure 5, and

Figure 7 is a fragmentary detail view illustrating the manner of adjusting the outer end of the communicating tubes.

Referring now more particularly to the accompanying drawings in which like numerals designate like parts throughout the several views, the numeral 5 represents a gas range of conventional construction having an

oven compartment 6 and a burner compartment 7. The burner compartment, as is customary, is provided with a plurality of burners 8 adapted to be communicated with a stringer pipe 9 by opening valves 10. An oven burner 8' is also communicated with the stringer pipe through a valve 10'.

Heretofore, it has been customary to provide a pilot light usually located medially with respect to the various burners and provided with a push button valve adjacent the stringer pipe which, upon being depressed, increased the supply of fuel to its tip and directing a number of radially extending flames outwardly over the burners so that any desired burner could be lit upon opening its particular valve. This method, however, required the use of two hands, and the present invention contemplates the provision of a novel means whereby any burner may be automatically lit by merely opening its supply valve.

In the embodiment illustrated in Figures 1, 2 and 3, this means forms an integral part of the grill structure 11 which is mounted above the burners to support the articles to be heated. The grill is of special design and consists of two sections 12 and 13, which together cover the entire burner section and form the top thereof.

The abutting marginal edges of the sections 12 and 13 have their lower portions provided with semi-cup shaped recesses which are aligned when the sections are in place and form a pilot light chamber 14. A pilot tip 15 extends upwardly into the chamber 14 and is connected with the stringer pipe by a tube 16, in which a needle valve 17 is interposed to permit adjustment of the volume of gas flowing to the pilot tip. The gas conducted to the pilot tip burns in a flame and is protected from being blown out by the side walls of the chamber 14.

As clearly illustrated in Figure 1, the grill sections 12 and 13 are provided with arms radial to the several burners and the arms which extend in a radial line from the burners to the pilot light chamber 14 are tubular to provide channels 18 whose outer lower portions are open, as at 19, and are disposed over the outermost openings 20 of the adjacent burners to communicate the same with the pilot chamber 14. In this manner a portion of the gas issuing from the burners as they are initially connected with the source of supply, passes through the channels 18 into the pilot chamber 14 to be ignited thereby and conduct a flame back to the burner so that the remaining gas issuing therefrom is automatically lit.

The grill section 12 also has its central rib 21 provided with a tubular opening 22 which extends from the pilot chamber to the marginal edge of the grill adjacent the oven wall 23. From this point a pipe 24 threaded in the outer end of the passage 22 extends in-

wardly into the oven to have a special elbow 25 fixed to its outer end and disposed over a portion of the openings 26 in one arm of the oven burner 8' so that the oven burner may be lit in the same manner as the other burners.

In that form of my invention illustrated in Figures 4, 5, 6 and 7, the grill is composed of identical sections 27 and the communicating channels or passages extending from the pilot chamber 14 to the various burners are provided by a plurality of pipes 28 threaded in openings in the side walls of the chamber 14 to extend radially therefrom toward the various burners.

The outer end portion of the communicating pipes 28 are provided with globular enlargements 29 over which the correspondingly shaped inner end portions 30 of extensions 31 are secured so that the extensions 31 are substantially universally adjustable with respect to the fixed pipes 28. The outer ends of the extensions 31 have elbows 32 secured thereto which are similar to the elbow 25 illustrated in Figure 3, and have elongated openings 33 at their bottom portions which overlie the adjacent outlet ports 20 of the burners as in the modification illustrated in Figures 1 to 3, inclusive.

By adjustably connecting the extensions 31 with the pipes 28, the inlet openings 33 may be readily adjusted to be disposed directly over the ports 20 of the burners and in this manner variations and inaccuracies in the castings are very easily accommodated. Both the pipes 28 and the extensions 31 are provided with a plurality of apertures 34 along their bottoms which provide air bleeds and insure the maintenance of the flame as it travels from the pilot chamber 14 to the burners.

From the foregoing description taken in connection with the accompanying drawings, it will be readily apparent to those skilled in the art to which an invention of the character described appertains, that I provide a novel and extremely simple manner of automatically lighting the burner of a gas range which has no moving parts whatsoever and cannot become out of order, and one in which variations and inaccuracies of production may be readily accommodated.

What I claim as my invention is:

1. In a device of the character described, a burner, means for connecting the burner with a source of fuel supply, a grill over the burner for supporting articles to be heated, said grill having a chamber formed therein and spaced from the burner, a pilot light burning in a flame within the chamber, and means for communicating fuel issuing from the burner upon its initial connection with the source of supply within the chamber to cause the burner to be automatically lit.

2. In a device of the character described, a burner, means for connecting the burner with

a source of fuel supply, a grill mounted above the burner to support articles to be heated, said grill having a chamber formed in its under side, a pilot light extending into the chamber and burning in a flame therein, and means connected with the walls of the chamber and having a portion overlying the burner to form a tubular communicating passage from the burner to the chamber whereby fuel issuing from the burner upon connection with the source of fuel supply is conducted to the chamber to be ignited by the flame therein.

3. In a device of the character described, a plurality of burners, means for connecting the burners with a source of fuel supply, a grill structure formed of cooperating sections mounted above the burners to support articles to be heated, said grill sections having walls projected from their under sides adjacent their meeting edges which cooperate to form a chamber open only at its bottom, a pilot light within the chamber, and tubular members extending radially from the chamber toward the burners and having their open outer ends disposed over portions of the burners whereby fuel issuing from the burners is conducted to the chamber and ignited by the pilot light therein.

4. In a device of the character described, a burner, means for connecting the burner with a source of fuel supply, a grill over the burner for supporting articles to be heated and comprising complementary sections, said grill having a substantially inverted cup-shaped chamber at its under side formed by complementary walls depending downwardly from and integral with the grill sections, a pilot light burning in a flame within the chamber, and tubular means carried by the grill for communicating fuel issuing from the burner upon its initial connection with the source of supply with the chamber to cause the burner to be automatically lit.

5. In a device of the character described, a burner, means for connecting the burner with a source of fuel supply, a grill over the burner for supporting articles to be heated and comprising complementary sections, said grill having a substantially inverted cup-shaped chamber at its under side formed by complementary walls depending downwardly from and integral with the grill sections, a pilot light burning in a flame within the chamber, and tubular means carried by the grill for communicating fuel issuing from the burner upon its initial connection with the source of supply with the chamber to cause the burner to be automatically lit, said tubular means having air openings at its under side.

6. In a device of the character described, a burner, means for connecting the burner with a source of fuel supply, a grill mounted on the burner to support articles to be heated and having a chamber formed on its under side, said chamber being open at its bottom, a pilot

light within said chamber, a tubular member extending from the chamber towards the burner, a tubular extension substantially universally adjustably connected with the tubular member, said tubular extension having an opening adapted to be positioned above a portion of the burner whereby fuel issuing from the burner is conducted to the chamber to be ignited by the pilot light therein.

In testimony whereof I have hereunto affixed my signature.

HERBERT E. TOELLE.

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CERTIFICATE OF CORRECTION.

Patent No. 1,879,776.

September 27, 1932.

HERBERT E. TOELLE.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, line 127, claim 1, for the word "within" read with; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 29th day of November, A. D. 1932.

(Seal)

M. J. Moore,
Acting Commissioner of Patents.