No. 866,143. PATENTED SEPT. 17, 1907.

W. H. KIRK.

GAS BURNING APPLIANCE FOR STOVE OVENS.

APPLICATION FILED AUG. 8, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

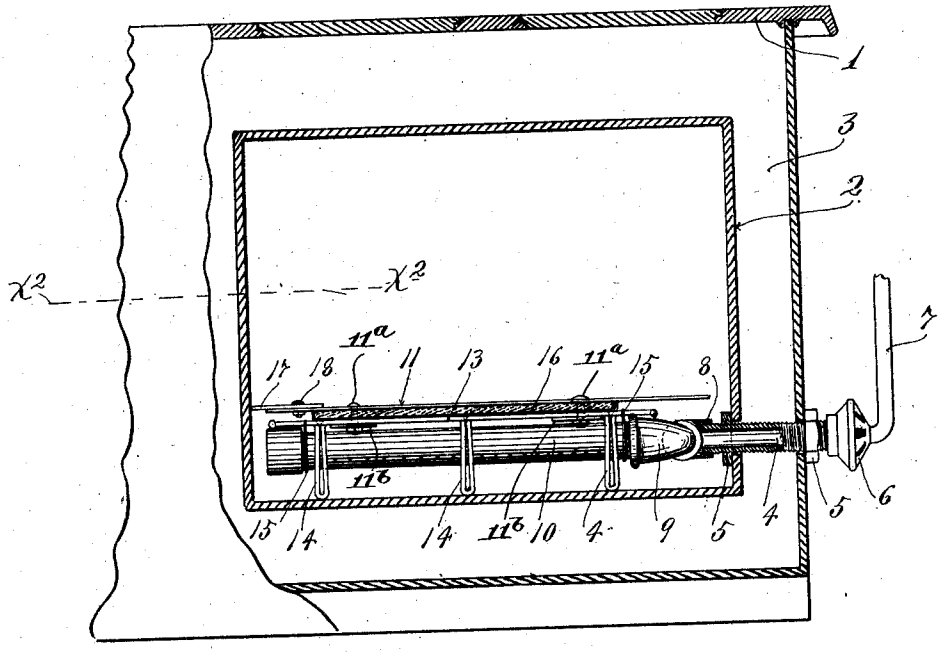
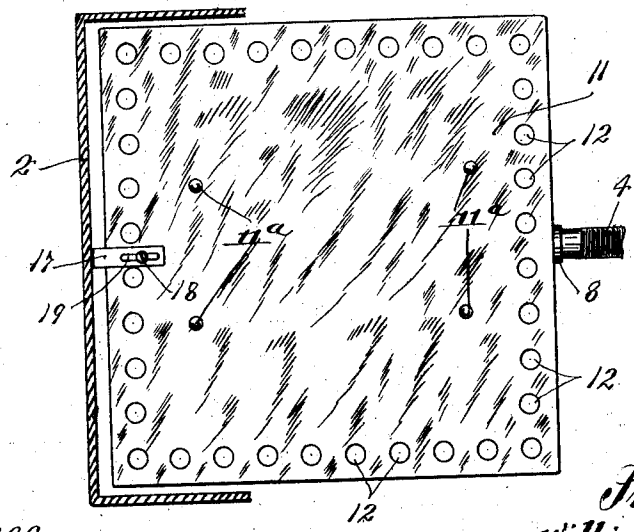


Fig. 2.



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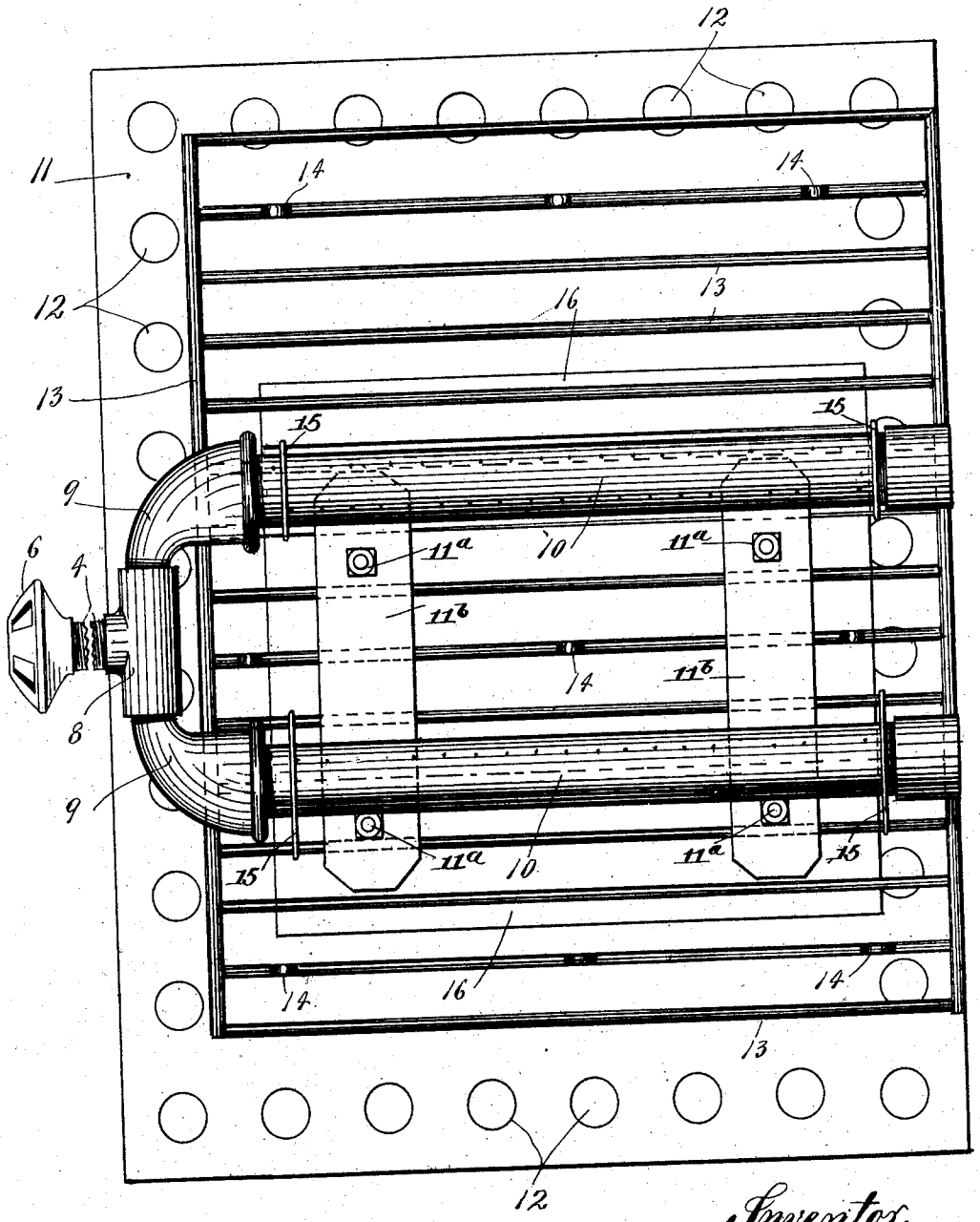
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2 SHEETS—SHEET 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM H. KIRK, OF MINNEAPOLIS, MINNESOTA.

GAS-BURNING APPLIANCE FOR STOVE-OVENS.

No. 866,143. Specification of Letters Patent. Patented Sept. 17, 1907.

Application filed August 8, 1906. Serial No. 329,674.

To all whom it may concern:

Be it known that I, WILLIAM H. KIRK, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Gas-Burning Appliances for Stove-Ovens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved gas burning device for the ovens of ordinary wood or coal burning cooking stoves or ranges, whereby gas may be used as fuel to bake within such ovens, and to the above ends the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

The invention applied to the oven of an ordinary cook stove or range is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view partly in side elevation and partly in vertical section, showing the oven and surrounding flame chamber of an ordinary cooking stove or range. Fig. 2 is a view partly in plan and partly in horizontal section on the line x^2 x^2 of Fig. 1, some parts being broken away; and Fig. 3 is a bottom plan view showing the gas-burning appliance in bottom plan view and removed from the stove.

The numeral 1 indicates the body of an ordinary cooking stove or range, the numeral 2 indicates the oven thereof, and the numeral 3 indicates the flame chamber which surrounds the said oven.

In the preferred application of the improved gas burning appliance, an externally threaded sleeve 4 is extended through perforations in one of the walls of the oven and in the adjacent wall of the stove, and is secured in position by nuts 5, as best shown in Fig. 1. To the outer end of the sleeve 4 is attached an air regulating damper 6 of the usual or any suitable construction, and into this damper opens a gas supply pipe 7 which leads from any suitable source of gas supply under pressure. The inner end of the sleeve 4 is slightly tapered to adapt it to be inserted into a correspondingly tapered seat formed in a coupling sleeve 8. The coupling sleeve 8 is, as shown, connected by a pair of elbows 9 to a pair of parallel twyer pipes 10, the extended ends of which are closed and the under surfaces of which are perforated. A heat deflecting plate 11 overlies the twyer pipes 10 and extends nearly but not quite over the entire lower surface of the oven and constitutes what may be designated as a false bottom to the oven. This deflecting plate 11 is preferably provided with perforations 12 extended parallel and close to its four edges. As shown, the deflecting plate is secured to a skeleton frame work or grate 13 which has depending legs 14 that rest directly upon the bottom of the oven by nutted bolts 11^a passed through said plate 11 and a strip 11^b underlying said grate 13, and the grate 13 is, in turn, directly secured to the said twyer pipes by wires 15. To prevent the central portion of the deflecting plate 11 from becoming too hot, a sheet of asbestos 16 is interposed between the grate 13 and the under surface of the said plate 11, as shown in Figs. 1 and 3. It will thus be seen that the twyer pipes 10, the deflecting plate 11 and the grate 13 are so connected that they may be together removed from the stove and together applied within the oven thereof. The connection between the inner end of the sleeve 4 and the sleeve receiving socket or coupling sleeve 8 is made by moving the latter toward the right with respect to Fig. 1, and onto the sleeve 4, while the left hand ends of the twyer pipes are given an angular downward movement; and the said part 8 is disconnected from the sleeve 4 by a reverse movement of the said twyer pipes. To prevent external separation of the said parts 4 and 8 when the burner is attached, a stop clip or arm 17 is adjustably secured to the left hand edge of the deflecting plate 11, as shown, by means of a short nutted bolt 18 that works through a slot 19 in said clip and is passed through the said deflecting plate. A suitable valve (not shown) should be applied in the pipe 7 for turning on and shutting off the supply of gas.

When the burner attachment is applied and is in use, the burning products of combustion from the twyer pipes affords an upward passage into the oven only in the vicinity of the marginal portions of the deflecting plate 11, to-wit, either through the perforations 12 or around the edges of said plate, and thus all articles placed on the intermediate portion of the deflecting plate are protected to the extent that they will not be burned when the stove is properly regulated. A very considerable amount of heat will, however, be radiated upward through the central portion of the said deflecting plate.

In practice, I have found that there will be sufficient leakage from the oven of an ordinary stove into the surrounding flame chamber or draft passage to carry off the products of combustion. Of course, if desired a draft flue might be provided for that purpose.

The device described is of small cost and in practice has been found highly efficient for the purposes had in view. Furthermore, when desired the gas burning appliance may be quickly detached and removed from the stove, and when desired may be very quickly applied thereto.

What I claim is:

1. The combination with an ordinary cooking stove or range, of a gas burning appliance for the oven thereof, comprising a gas conducting sleeve extended through the walls of the oven and the adjacent wall of the stove, a twyer detachably coupled to the inner end of said sleeve,

and a rectangular deflecting plate overlying said twyer and spaced at its four edges apart from the four walls of the oven, substantially as described.

2. The combination with an ordinary cooking stove or range, of a gas burning appliance for the oven thereof, comprising a gas conducting sleeve extending through one of the walls of said oven and the adjacent wall of the stove and having a tapered inner end, a pair of connected twyer pipes having a socket fitting the tapered inner end of said sleeve, and a deflecting plate overlying said twyer pipes, substantially as described.

3. The combination with an ordinary cooking stove or range, of a gas burning appliance for the oven thereof, comprising a sleeve extending through one wall of the oven and through the adjacent wall of the stove and having a tapered inner end, a twyer pipe having a socket fitting the tapered end of said sleeve, a deflecting plate secured to and overlying said twyer pipe, and an adjustable stop on said deflecting plate engageable with one of the walls of the oven to prevent separation of said socket from the tapered end of said sleeve, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. KIRK.

Witnesses:
MALIE HOEL,
F. D. MERCHANT.