

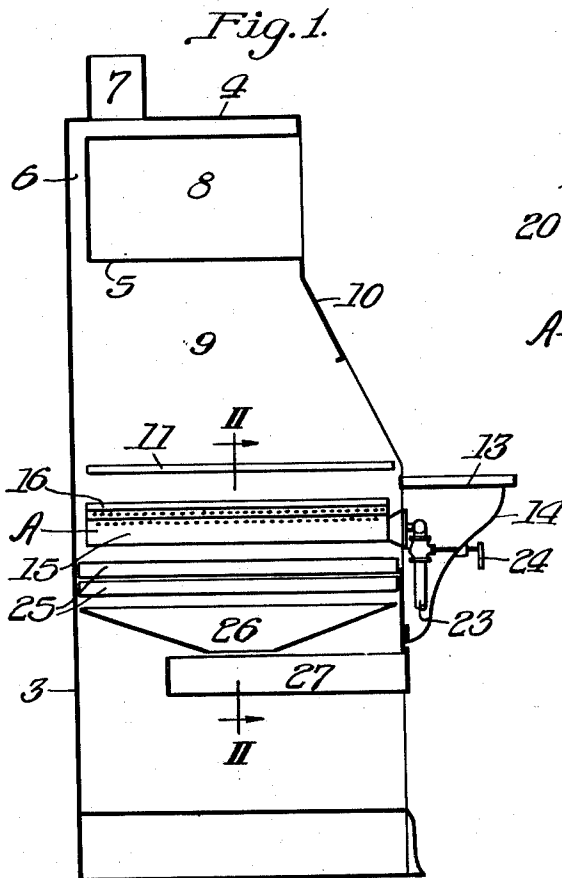
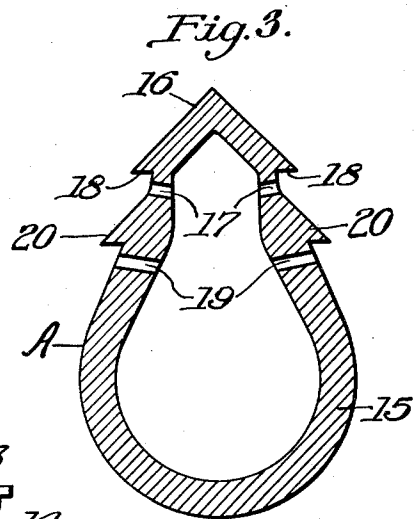
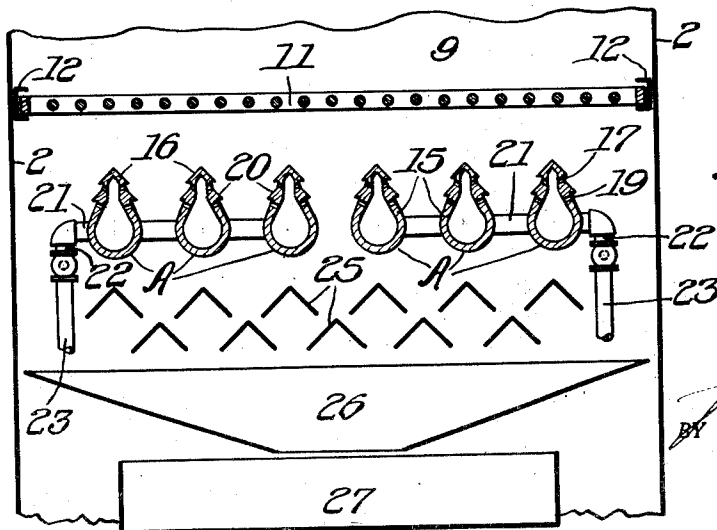
April 10, 1934.

J. E. GLOEKLER

1,954,476

GAS BURNER

Filed Oct. 5, 1932



INVENTOR.

INVENTOR.
John Edward Horner
BY C. M. Crute
ATTORNEY.

ATTORNEY.

UNITED STATES PATENT OFFICE

1,954,476

GAS BURNER

John Edward Gloeckler, Pittsburgh, Pa.

Application October 5, 1932, Serial No. 636,318

2 Claims. (Cl. 158—104)

My invention consists of an improvement in gas burners for broilers, particularly for the purpose of broiling meats, poultry, etc. in apparatus generally similar in construction to the cooking range of my prior Patent No. 1,165,004. The present improvements relate to the construction of the fuel gas burners and their adaptation to the supporting grids for the articles being broiled, and to associated baffle and collecting means for grease or other eliminated components, in the operation of cooking.

In the construction and operation of gas-fired broilers, it is desirable to subject the articles being cooked to the action of a broiling flame as closely as possible approximating the incandescent mass of charcoal, for ideal conditions, as is generally understood by those skilled in the art. In the use of fuel gas, as in modern practice, when the fuel in combustion is discharged upwardly below grid-supported meats etc., it is especially desirable to protect the emission ports of the burner or burners from downwardly discharged grease or meat juices, for the highest efficiency of the burners and to maintain a regularly distributed constant and controlled flame. It is also desirable to maintain the supply of fuel to a plurality of burners, or sets of burners, so as to enable the operator to vary such fuel supply at one lower side or the other of the supporting grids or gridiron, for best results.

In my present invention I have provided for these conditions in a highly successful manner, enabling the operator to successfully and satisfactorily apply the heat for best results, as hereinafter described.

In the drawing showing one preferred embodiment of the invention:

Fig. 1 is a central vertical transverse section through a broiler provided with my improved burner;

Fig. 2 is a transverse sectional view enlarged, on the line II—II of Fig. 1;

Fig. 3 is a further enlarged transverse section through one of the burner tubes or pipes.

The entire broiler is enclosed within suitable side walls 2 of sheet metal or other suitable material, and a back 3, terminating in a covering top 4 having inner walls 5 providing a flue back cavity 6 for circulation of the products of combustion outwardly to a flue pipe 7. Such construction provides the upper warming closet 8 of usual type.

Below such upper portion is the broiling chamber 9, wholly or partially closed by one or more sloping front covers 10 above the gridiron frame 11. The latter is preferably slidably mounted for

inward and outward movement on lateral trackways 12 at opposite sides, so that the grids may be drawn outwardly or inserted, following common practice. A forwardly projecting shelf 13 extends outwardly beyond and slightly below the movable gridiron above a supporting bracket or casing 14 enclosing the piping connections leading to the burners.

The several burners A consist of one piece cast sections of piping having a main semi-cylindrical body portion 15 sloping upwardly and inwardly at each side and terminating in an upper relatively narrow ridge 16 having opposite diverging steeply inclined faces.

The ridge 16 provides a longitudinal coping extending by its upper steeply inclined faces outwardly at each side beyond the upper series of longitudinally and oppositely arranged gas emission ports 17. Such upper series of ports communicate inwardly with the upper narrowest portion of the main interior of the burner pipe and are located immediately below the outwardly extending lower delivery edges 18 of the coping 16. By such construction the emission ports 17 are completely protected from any closing effect or interference by downwardly dripping grease, juices, etc., in the nature of protecting eaves.

Below the ports 17 I provide a secondary series of similar ports 19, communicating with the widening interior and discharging laterally beyond the ports 17. Between such lower ports and the upper ones are the longitudinal outwardly sloping projections 20, acting like projections 18 to extend over and deflect away from the jet openings 19, any downwardly falling interfering matter. Projections 20 extend beyond edges 18, deflecting any drip therefrom as well as from above. By such construction it will be seen that all of the several gas emission ports 17 and 19 are continually maintained open and clear so as to insure continuous flow and even distribution of the fuel gas, as controlled by the operator. Also that the upper and lower jets being off-set at each side, the fuel from the lower jets 19 will pass upwardly beyond the flow from upper jets 17, ensuring very even distribution to the grids above.

As shown in Fig. 2, I provide two series of burners A as in groups of three, arranged horizontally and preferably equally spaced across the entire lower area below the grids.

Such burners are connected by pipes 21 and 22 with the main supply pipes 23, one at each side, leading from a common gas supply pipe, the pipes 23 for each set of burners each having a

controlling valve or cock, suitably arranged in the installation. Each group of burners is thereby provided with an independently controlled gas supply so that one group or the other at each side may be readily regulated and controlled for more or less heat application, dependent on the material being broiled. The controlling valve of each supply pipe 23 has a regulating valve stem terminal 24, as clearly shown in Fig. 1.

For the purpose of distributing grease drippings etc. discharged downwardly over the sides of the several burners A, I utilize two series of baffle plates 25, preferably of inverted angle shape as shown in Fig. 2, arranged in two rows, one below the other, in alternating staggered arrangement. Such baffle plates are of advantage and utility, first, in deflecting the heat resulting from combustion upwardly under the meats etc. being broiled, for best results. In this manner the baffles act as physical deflectors or radiators, tending to evenly distribute the fuel in combustion upwardly as desired. Second, to baffle and deflect the drippings or grease as it falls downwardly, thereby preventing ignition and also facilitating its movement toward the collecting drip chute 26 and grease drawer 27. These elements are generally similar to the hopper 3 and drawer 4 of my prior patent, and for the same general purpose.

The construction and operation of the invention will be readily understood and appreciated from the foregoing description, by all those familiar with the art involved. It provides for successful accurately controlled application of the heat of combustion from gaseous fuel, especially in broiling operations for the best results, by evenly distributing the gaseous fuel underneath the gridiron. It also provides against objectionable reactions due to the unavoidable dripping incident to the operation of broiling. It further insures against undesirable conflagration of fall-

ing grease; provides for distribution and collection thereof; protection of the fuel supply means; and ensures continuous successful operation of the broiler without requiring especial skill in the operator.

It will be understood that the construction may be changed or varied in different details or proportions or otherwise by the skilled mechanic, but all such changes are to be understood as within the scope of the following claims.

What I claim is:

1. A gas burner for broilers consisting of an integral hollow casting having an upper row of lateral outlet ports at each opposite side and an uppermost steeply inclined drip deflecting coping extending outwardly beyond and above the ports, a lower row of ports at each side, and copings intermediate the rows of ports at each side extending outwardly beyond and above the lower ports and outwardly beyond and below the upper coping.
2. A gas burner for broilers consisting of an integral hollow casting having a lower maximum diameter body portion sloping upwardly and inwardly at each side around an uppermost minimum width portion and provided with oppositely arranged outlet ports through its upwardly and inwardly sloping walls, lower inclined drip deflecting copings extending from the walls having oppositely disposed faces terminating in delivery edges above and outwardly beyond said ports, the side walls of the casting being further contracted above said ports and copings and provided with additional oppositely arranged upper outlet ports, and an uppermost drip deflecting coping having oppositely disposed inclined faces terminating in delivery edges located outwardly beyond and above said upper ports and inwardly above the edges of the lower copings.

JOHN EDWARD GLOEKLER.