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2,161,669

BROILER

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2 Sheets-Sheet 1

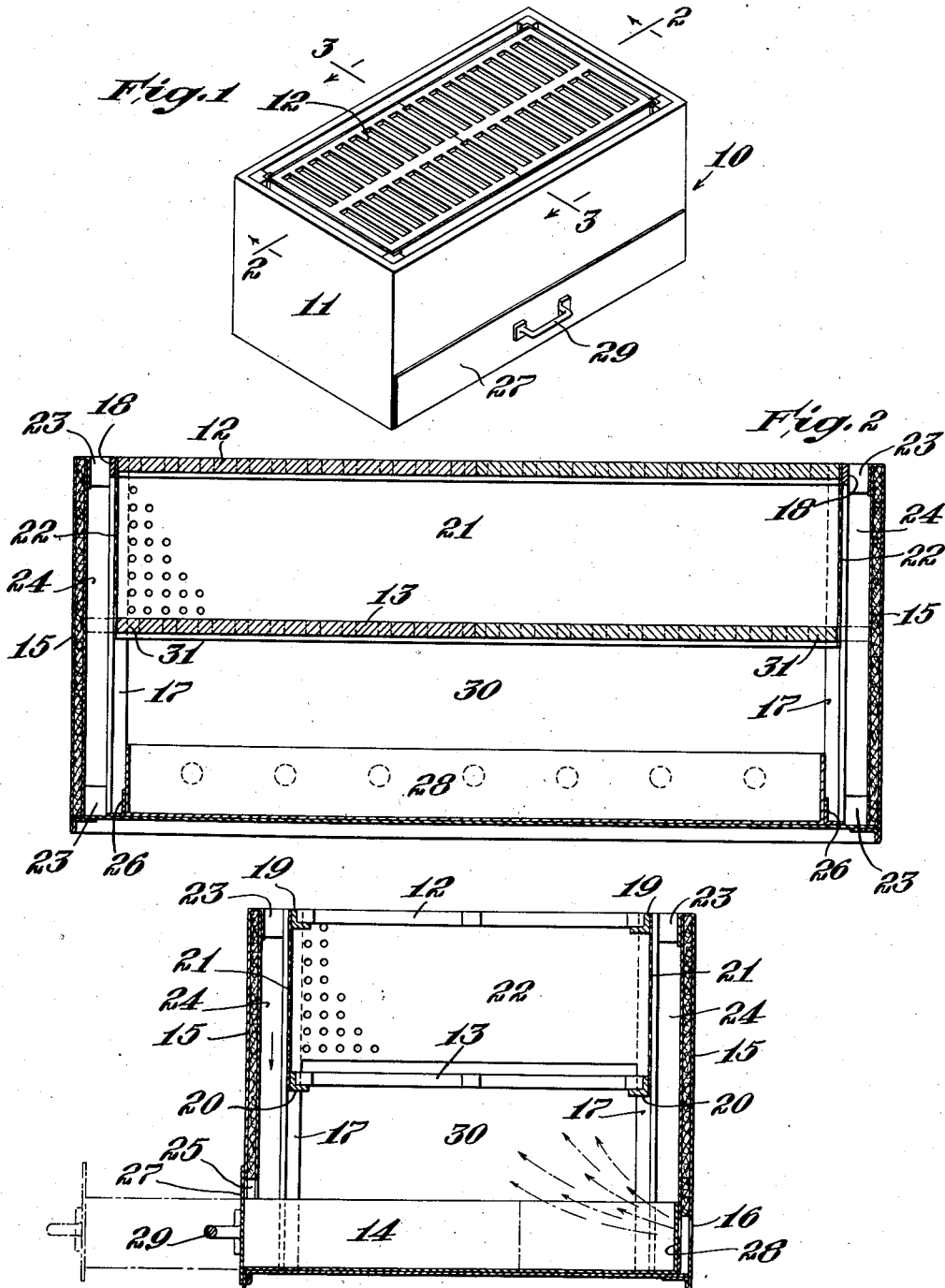


Fig. 3

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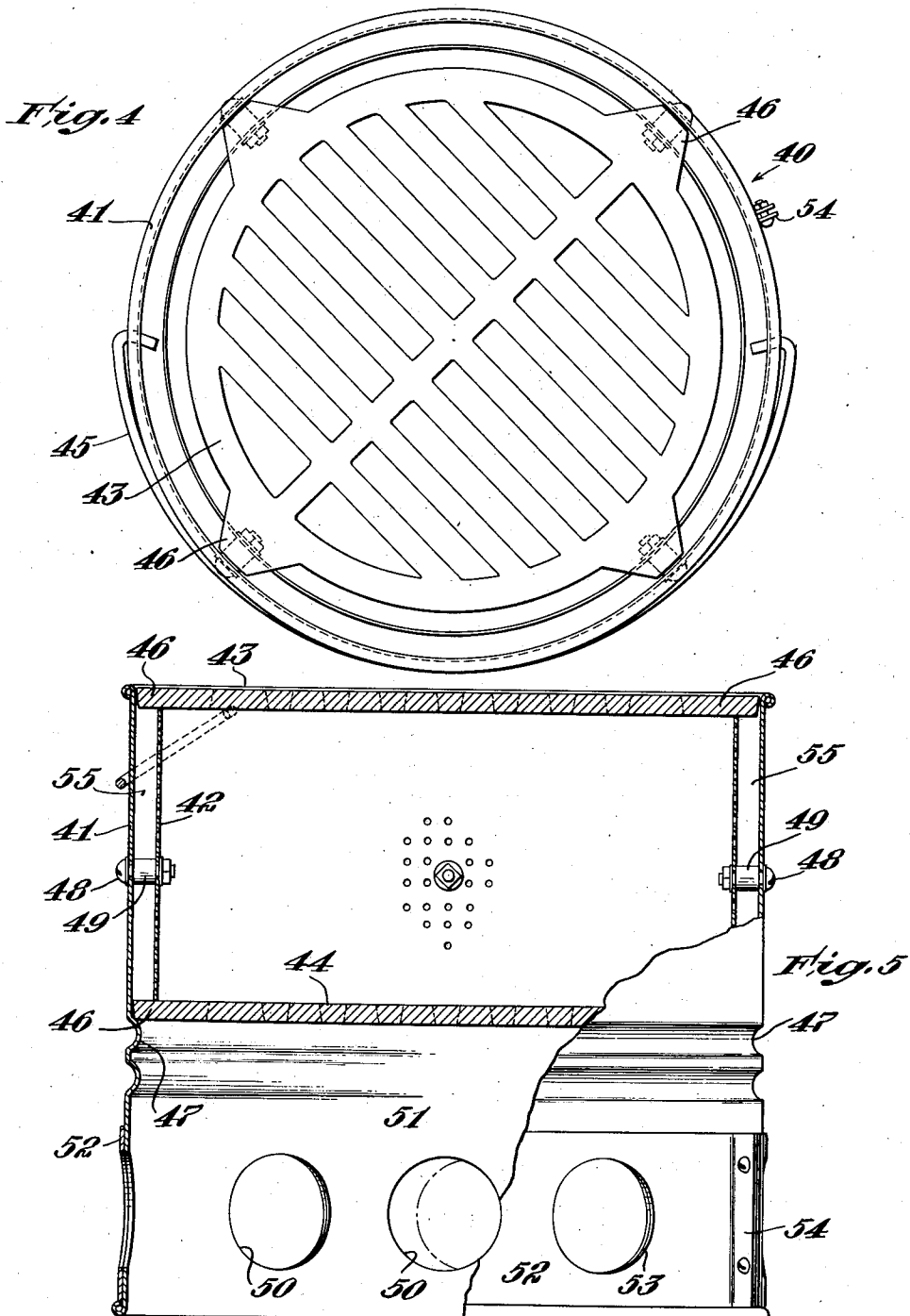
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BROILER

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11 Claims. (Cl. 126—29)

This invention relates to an improvement in a broiler, and has for its primary object a broiler which can be used out of doors and the efficiency of which will not be impaired but on the contrary will be increased by the wind. Heretofore the presence of wind has proven to be a great drawback to out-or-door broiling, and food so treated is not satisfactory.

A further object of this invention is a broiler adapted for the use of charcoal and so constructed that an even fire can be maintained over the entire bed and the steak or other food be evenly broiled throughout.

These and other objects will appear from an examination of the following description and of the drawings which form a part thereof, and in which:

Fig. 1 is a perspective view of a broiler embodying one form of this invention;

Figs. 2 and 3 are enlarged cross sectional views thereof taken along the lines 2—2 and 3—3 respectively in Fig. 1;

Fig. 4 is a plan view of a broiler embodying another form of this invention; and

Fig. 5 is a side elevation thereof partially in section.

In the embodiment shown in Figs. 1, 2 and 3 the broiler 10 comprises a housing 11 in which are suitably supported grates 12 and 13 and a removable ash drawer 14. The wall 15 of the housing is preferably insulated in any suitable manner to prevent the escape of heat, and the back wall has a plurality of holes 16, here shown as arranged in a row near the lower edge thereof. The grates 12 and 13 are supported within the housing upon a removable standard, which comprises posts 17 connected at the top by a bar 18 at each end and an angle bar 19 at each side. The posts 17 are further connected at each side by a second angle bar 20, parallel to the first and secured to the posts substantially midway of their length. The grates 12 and 13 are removably supported upon the bars 19 and 20 and the space between is enclosed by a wall consisting of plates 21 and 22 fixed in place in any suitable manner. Guide blocks 23 at the corners of the housing engage the posts 17 and position the standard from the walls 15 of the housing to define a channel 24 for a purpose to be set forth below.

The ash drawer 14 enters the housing 11 through a hole 25 in the front wall thereof, and is positioned in the housing between angle bars 26 on the bottom plate of the housing. The front wall 27 of the drawer is of such size that

when the drawer is closed the hole 25 is sealed thereby and its back wall 28 bears against the back wall of the housing to seal the holes 16 therein (see Fig. 3). A suitable handle 29 facilitates the manipulation of the drawer.

In using this broiler the fuel, preferably charcoal, is placed with paper or other kindling material on the grate 13 and the kindling lighted. For convenience the space defined by the grates 12 and 13 and the plates 21 and 22 will be referred to as the fire box. The drawer 14 is at first partially opened, as shown in dotted lines in Fig. 3, so that air enters the compartment 30 at the bottom of the housing below the fire box through the holes 16 and the opening 25. This provides a draft which facilitates the kindling of the fuel. When the fuel is well ignited the drawer 14 is closed, whereupon a secondary draft is set up in accordance with the well known principle down the channel 24 formed between the wall of the standard and that of the housing, and then upwardly through the fuel. As shown in the drawings, the plates 21 and 22 are perforate and hence some of the air flowing down the channel enters the fire box through the perforations and thus provides a more even firing of the fuel so that the entire surface is ignited. Under some conditions, however, this further draft is not essential and imperforate plates may be employed. The steaks or other food to be broiled are placed on the upper grate 12.

The ashes fall through the lower grate 13 into the drawer 14. Each grate is preferably made in two sections which meet at the center when placed on the angle bars 19 and 20. The sections of the lower grate 13 may terminate in tongues 31 which are narrower than the spaces between the posts 17, so that these sections may be separated at the center to permit quickly cleaning the grate.

Figs. 4 and 5 illustrate a portable broiler 40 embodying another form of this invention comprising an annular housing 41 open at the top and bottom, a fire box defined by an annular wall 42, and grates 43 and 44 and a handle 45. The grates are of the same conformation, each having a plurality of spaced tongues 46 having the outer edges outwardly and upwardly tapered. The lower grate 44 is supported upon a corrugation 47 formed in the wall of the housing 41. The wall 42 is formed by a plate which rests upon the tongues of the grate 44 and is spaced from and secured to the housing wall by bolts 48 and sleeves 49. The tongues of the upper grate rest upon and are supported by the up-

per edge of the wall 42. In the wall 42 below the corrugation 47 are formed a plurality of holes 50 through which air may enter the compartment 51 of the housing below the fire box. Surrounding the lower portion of the wall 42 is a band 52 having holes 53 therein. The band is rotatable as by means of a projecting handle 54, so that in one position the holes 53 register with the holes 50 and in another position are out of register, so that the holes 50 are sealed.

The housing wall and the wall 42 are spaced apart to provide an annular channel 55 which leads into the compartment 51 of the housing.

As in the first described embodiment the fuel is placed on the lower grate 44 and the steak or other food to be broiled is placed on the upper grate 43. The fuel in the fire box is kept burning at the desired rate by means of the draft through the holes 50 as regulated by the band 52 and the draft which flows downwardly in the channel 55 and upwardly through the fuel. When, as here shown, the plate forming the wall 42 is perforate, some of the air flowing downwardly in the channel 55 enters the fire box through the perforations in the plate, and passes over the fuel. As in the other embodiment, the plate may, if desired, be imperforate.

It will be noted that in each embodiment a draft is set up by air drawn downwardly into the compartment at the lower part of the housing and then upwardly through the fuel, which may be supplemented when desired by air admitted directly into such compartment of the housing. In addition, when the wall defining the fire box is perforate, some of the air is drawn over the fuel or through the sides thereof. When the direct entry of air into the housing compartment through the wall thereof is cut off, the draft downwardly through the channel is set up solely by the heat rising from the fuel bed. The amount of air drawn downwardly through the channel varies according to the draft required to maintain the fire.

While two embodiments of this invention have been shown and described, it will be understood that I am not limited thereto and that the form and construction of such embodiments may be altered and that other embodiments may be made, all without departing from the spirit and scope of the invention as set forth in the following claims.

I claim:

1. A broiler comprising a housing, a fire box defined by an upper grate, a lower grate, and a wall enclosing the space between the grates, said wall being removably positioned within the housing and spaced from the wall of the housing to provide a channel and said upper grate being supported by said fire box wall, and a compartment in said housing below said fire box, the fuel in the fire box resting on the lower grate and the food to be broiled resting on the upper grate, and said parts being so located and arranged that the ignition of the fuel in the fire box will set up a draft of air from without the housing which flows downwardly through said channel into said compartment and upwardly through the fuel in the fire box.

2. A broiler comprising a housing, a fire box defined by an upper grate, a lower grate, and a wall enclosing the space between the grates, said wall being removably positioned within the housing and spaced from the wall of the housing to provide a channel and said upper grate being supported by said fire box wall, and a compart-

ment in said housing below said fire box, the fuel in the fire box resting on the lower grate and the food to be broiled resting on the upper grate, and said parts being so located and arranged that the ignition of the fuel in the fire box will set up a draft of air from without the housing which flows downwardly through said channel into said compartment and upwardly through the fuel in the fire box, said housing walls having holes therein leading directly into said compartment, and means for opening or closing said holes whereby, when desired, a supplementary draft can be set up in the housing by opening said holes.

3. A broiler comprising a housing, a fire box defined by an upper grate, a lower grate, and a wall enclosing the space between the grates, said fire box being within and supported by the housing with its wall spaced from the wall of the housing to provide a channel, and a compartment in said housing below said fire box, the fuel in the fire box resting on the lower grate and the food to be broiled resting on the upper grate, and said parts being so located and arranged that the ignition of the fuel in the fire box will set up a draft of air from without the housing which flows downwardly through said channel into said compartment and upwardly through the fuel in the fire box.

4. A broiler comprising a housing, a fire box defined by an upper grate, a lower grate, and a wall enclosing the space between the grates, said fire box being within and supported by the housing with its wall spaced from the wall of the housing to provide a channel, and a compartment in said housing below said fire box, the fuel in the fire box resting on the lower grate and the food to be broiled resting on the upper grate, and said parts being so located and arranged that the ignition of the fuel in the fire box will set up a draft of air from without the housing which flows downwardly through said channel into said compartment and upwardly through the fuel in the fire box, said housing walls having holes therein leading directly into said compartment, and means for opening or closing said holes whereby, when desired, a supplementary draft can be set up in the housing by opening said holes.

5. A broiler comprising a housing, a fire box defined by an upper grate, a lower grate, and a wall enclosing the space between the grates, said fire box being within said housing, and said wall including a perforate plate and being spaced from the wall of the housing to provide a channel, and a compartment in said housing below said fire box, the fuel in the fire box resting on said lower grate and the food to be broiled resting on the upper grate, and said parts being so located and arranged that the ignition of the fuel in the fire box will set up a draft of air from without which flows downwardly through said channel part entering said compartment and passing upwardly through the fuel in the fire box and part entering the fire box from the channel through the perforations in the wall of the fire box.

6. A broiler comprising a housing, a removable standard in said housing including a plurality of posts, and perforate plates secured to the upper portions of the posts, an upper grate and a lower grate supported upon said standard, the grates and the perforate plates forming a fire box, said plates being spaced from the wall of the housing to provide a channel, a compartment in said housing below said fire box, and an

ash drawer in said compartment below said lower grate, said standard being so located in said housing that the ignition of fuel in the fire box will set up a draft of air from without the housing which flows downwardly through said channel, part entering said compartment and passing upwardly through the fuel in the fire box and part entering the fire box from the channel through the perforations in the plates thereof.

7. A broiler comprising a housing, a removable standard in said housing including a plurality of posts and perforate plates secured to the upper portions of the posts, an upper grate and a lower grate supported upon said standard, the grates and the perforate plates forming a fire box, said plates being spaced from the wall of the housing to provide a channel, a compartment in said housing below said fire box, the wall of the housing being provided with holes leading to said compartment, and a movable ash drawer in the compartment, said drawer when fully within the compartment closing the holes in the wall of the housing.

8. A broiler comprising a housing, a fire box defined by a lower grate, an upper grate and a perforate plate enclosing the space between said grates, said lower grate and said plate being supported by said housing, the plate being spaced from the wall of the housing to provide a channel therebetween, and said upper grate resting upon said plate, and a compartment in said housing below said fire box.

9. A broiler comprising a housing, a fire box defined by a lower grate, an upper grate and a perforate plate enclosing the space between said

grates, said lower grate and said plate being supported by said housing, the plate being spaced from the wall of the housing to provide a channel therebetween, and said upper grate resting upon said plate, a compartment in said housing below said fire box, the wall of the housing having holes therein which lead into said compartment, and means for opening or closing said holes as desired.

10. A broiler comprising a housing and a fire box defined by a lower grate, an upper grate and a wall enclosing the space between the grates, said fire box being supported in the housing upon a standard having a plurality of posts, and said lower grate being made in two abutting sections, the outer ends of which terminate in tongues adapted when the sections are separated to pass between the posts of the standard.

11. A broiler comprising a housing, a fire box defined by an upper grate, a lower grate and a wall enclosing the space between the grates, said fire box being within the housing and the wall thereof being spaced from the wall of the housing to provide a channel open at the top of the housing at all times, and a compartment in said housing below the fire box and into which the channel leads, said parts being so located and arranged that the ignition of the fuel in the fire box will set up a draft of air from without the housing which flows downwardly through the channel, past the fire box by which it is heated, into the compartment and upwardly through the fuel in the fire box to improve the combustion thereof.

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