Oct. 29, 1957 P. GOTTFRIED 2,811,628

ELECTRIC STOVE AND BROILER

Filed May 31, 1955 4 Sheets-Sheet 1

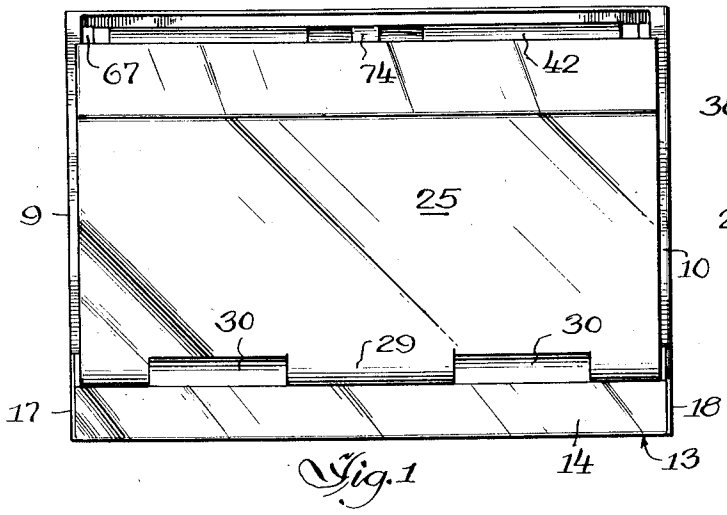


Fig. 1

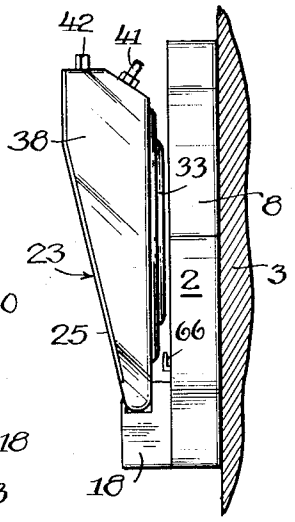


Fig. 2

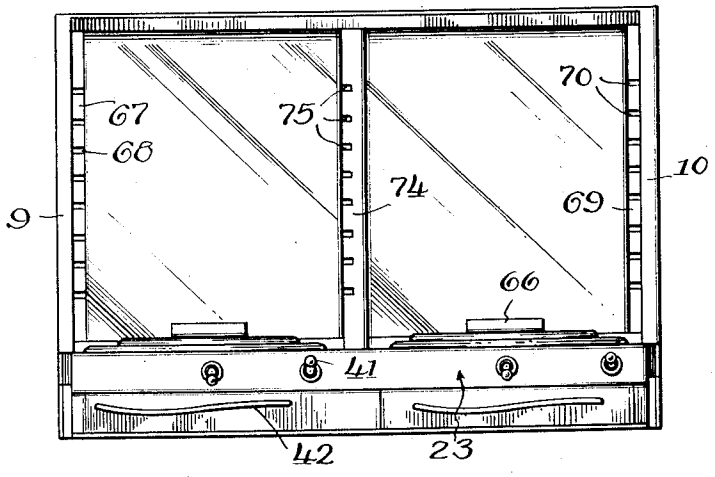
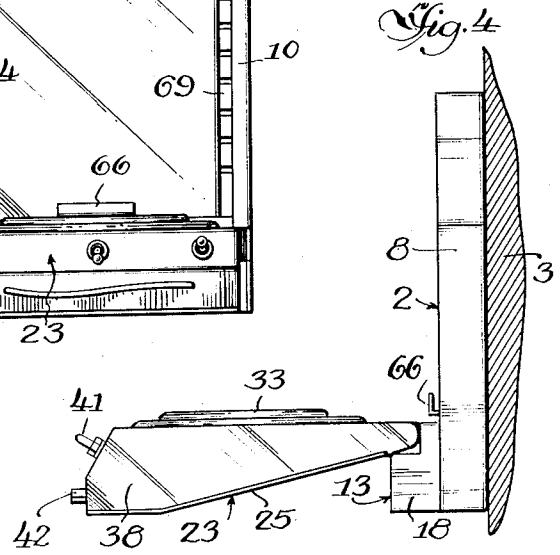


Fig. 3

Fig. 4



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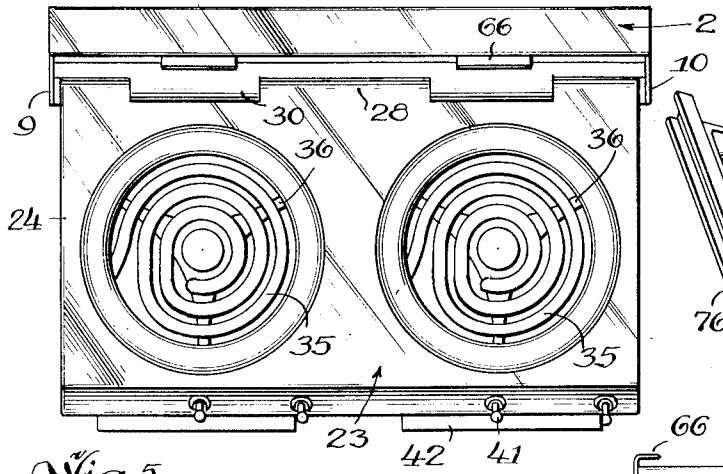


Fig. 5

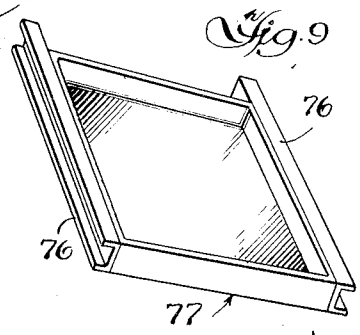


Fig. 9

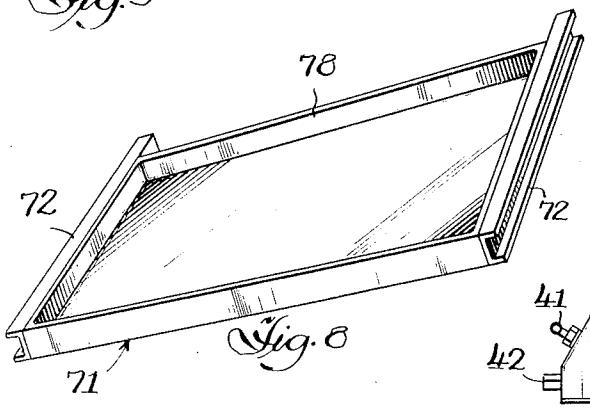


Fig. 8

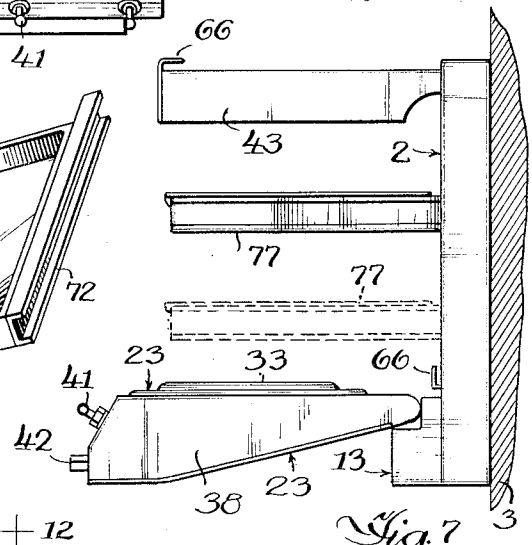


Fig. 7

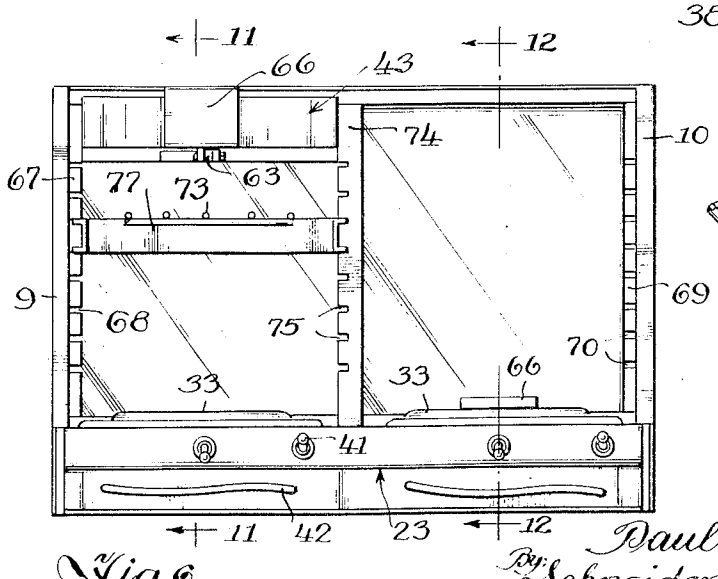


Fig. 6

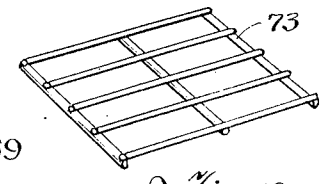


Fig. 10

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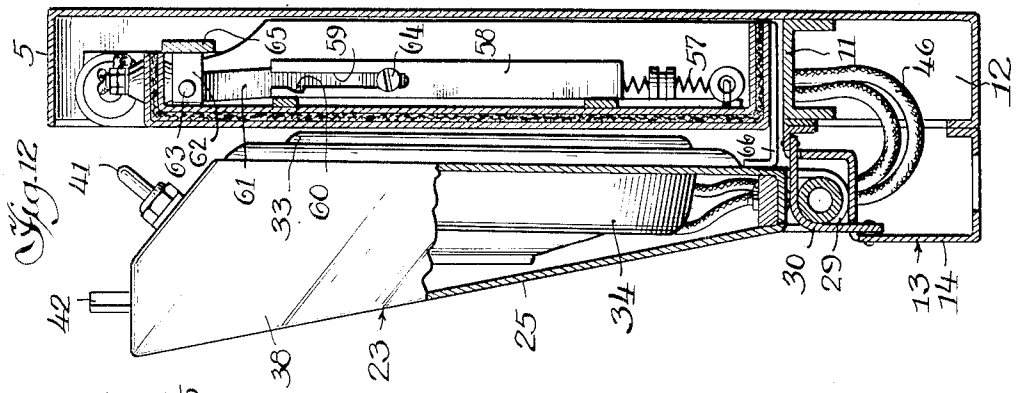


Fig. 12

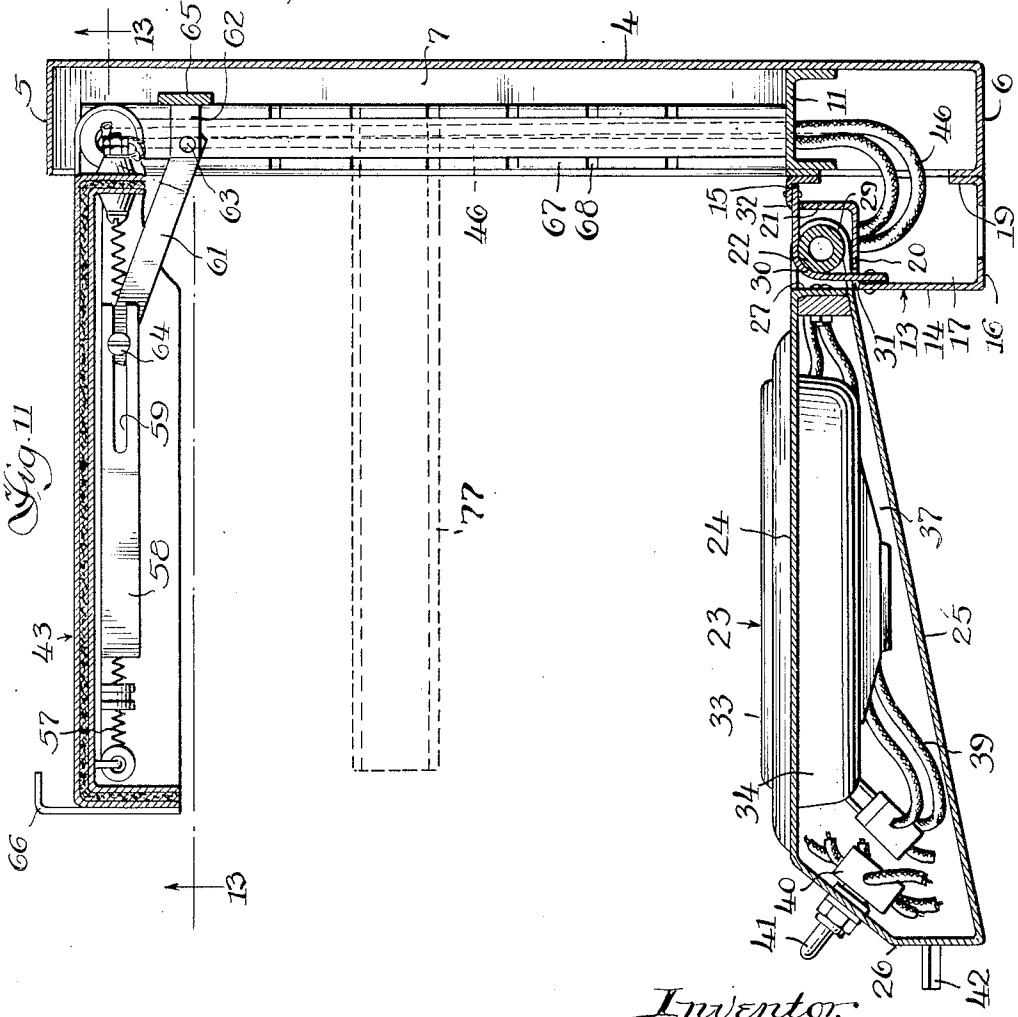


Fig. 11

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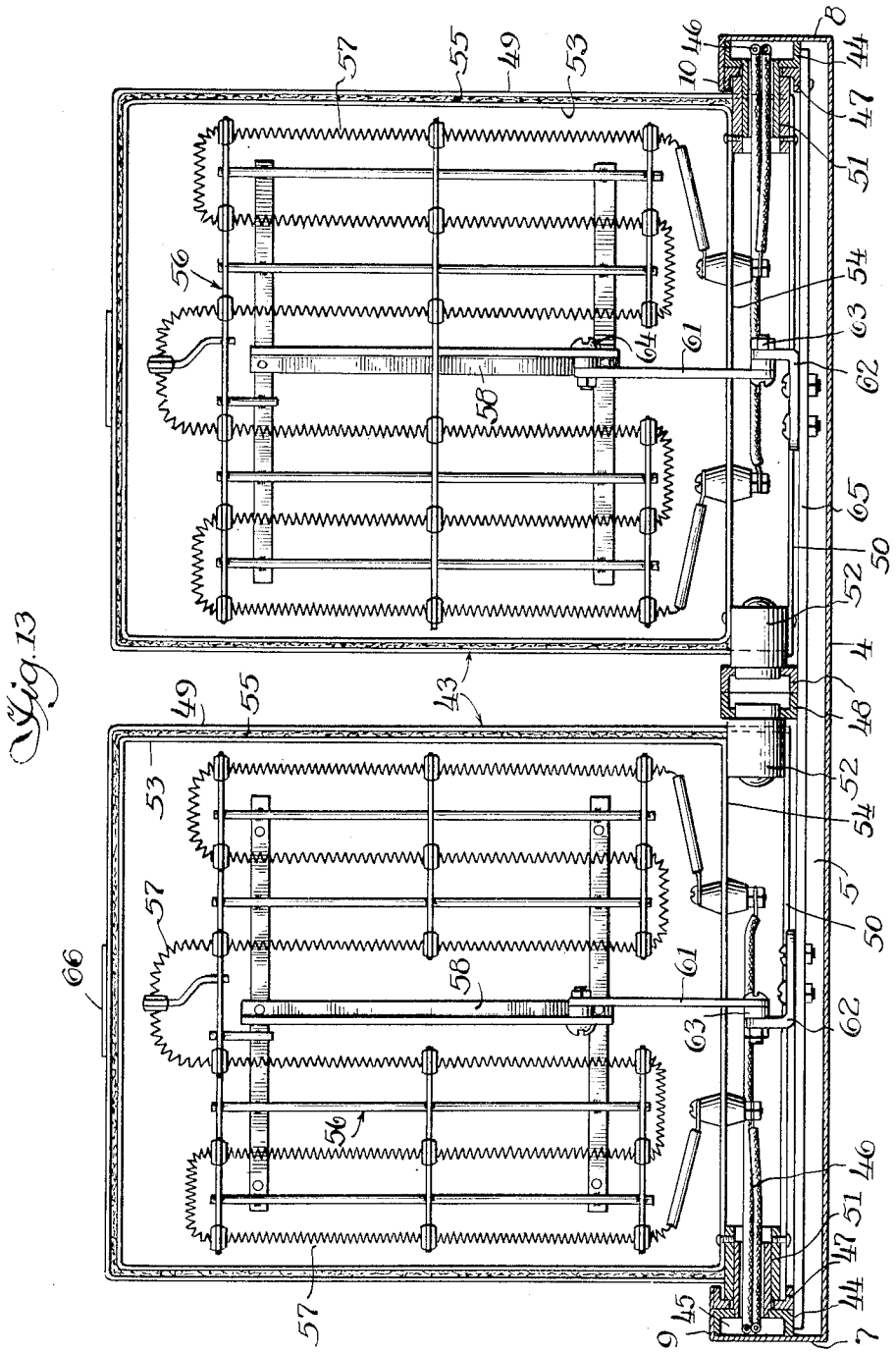


Fig. 13

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ELECTRIC STOVE AND BROILER

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Application May 31, 1955, Serial No. 511,863

5 Claims. (Cl. 219—37)

This invention relates to an electric stove and broiler adapted to be mounted in vertical position on any suitable supporting surface with the stove and broiler pivoted to swing into horizontal position for use.

The stove and broiler are pivoted to swing into substantially vertical position to conserve space when not being used. The device may be mounted in a recess in a vertical wall surface so that it is flush with the wall when not in use, or may be mounted in a wall cabinet. Even if the stove and broiler are mounted to project outwardly from the wall surface, it requires very little space in its closed, vertical position.

The device of the present invention comprises a base adapted to be secured to a vertical supporting surface. If desired, the lower edge of the base may be mounted on a horizontal surface, such as a table top, to support the device in its vertical position. A stove unit is pivoted to the lower edge of the base to swing outwardly and downwardly into a horizontal operative position, and upwardly and inwardly into a vertical, inoperative position. Two broiler units are independently pivoted to the upper edge of the base to swing outwardly and upwardly into a horizontal operative position, and downwardly and inwardly into a vertical, inoperative position. In its vertical position each broiler unit is housed within the base. Although it is preferred to provide two separate broiler units, it is possible to use a single broiler unit having a width equal to the width of the base.

The base is provided with means for supporting a broiler pan in different vertically spaced relationship to the heating coils of each broiler unit. The broiler units are pivoted to the base in side by side relationship so that both of the units may be swung into operative position for use as a broiler of double size. The supporting means is adapted to support a pan of suitable size to fit under a single broiler unit or a pan of double size to fit under both broiler units.

The structure by which the above mentioned and other advantages of the invention are attained will be described in the followig specification, taken in conjunction with the accompanying drawings, showing a preferred illustrative embodiment of the invention, in which:

Figure 1 is a front elevational view of a stove and broiler embodying the invention in its vertical, inoperative position;

Fig. 2 is a side elevational view of the stove and broiler in its vertical, inoperative position;

Fig. 3 is a front elevational view with the stove unit in its horizontal, operative position, and the broiler units in their vertical, inoperative position;

Fig. 4 is a side elevational view of the stove and broiler in the position of Fig. 3;

Fig. 5 is a plan view of the structure, with the stove in horizontal, operative position, and the broiler units in inoperative position;

Fig. 6 is a front elevational view with the stove and one broiler in operative position, and the other broiler in inoperative position;

Fig. 7 is a side elevational view with the stove and broiler in operative position;

Fig. 8 is a detail perspective view of the double size broiler pan for use with both broilers;

Fig. 9 is a detail perspective view of a single broiler pan;

Fig. 10 is a detail perspective view of a grid adapted to be suported on the broiler pan to support food to be broiled out of contact with the bottom of the broiler pan;

Fig. 11 is a cross sectional view, taken generally along the line 11—11 of Fig. 6;

Fig. 12 is a cross sectional view, taken generally along the line 12—12 of Fig. 6, but showing the stove in inoperative position; and

Fig. 13 is a horizontal sectional view, taken generally along the line 13—13 of Fig. 11.

In the drawings, the reference numeral 2 indicates a base member secured to a vertical supporting surface 3 in any suitable manner. Supporting surface 3 may be a kitchen wall, the back wall of a cabinet, or any similar vertical surface. Base 2 comprises a back wall 4, a top wall 5, a bottom wall 6, and a pair of side walls 7 and 8. Side wall 7 is provided with an inwardly extending flange 9 at its front edge; and side wall 8 is provided with a similar flange 10. A channel shaped bracket 11 is secured within base 3 a short distance above bottom wall 6 to define a compartment 12 open at its front.

A housing 13 is rigidly secured to the front of compartment 12. Housing 13 comprises a front wall 14, top wall 15 aligned generally with bracket 11, bottom wall 16, side walls 17 and 18, and a back wall 19 provided with an opening in registration with the opening in the front of compartment 12. Front wall 14 and top wall 15 are recessed, as indicated at 20 and 21, respectively, to provide space for a hingle pintle 22.

The stove unit 23 comprises a housing having an inner wall 24 and an outer wall 25 spaced apart by an angular wall 26 at one edge and a straight wall 27 at the opposite edge. Wall 27 is formed by portions of inner wall 24 bent outwardly at right angles, and portions of outer wall 25 bent inwardly. Alternate portions of inner wall 24 and outer wall 25 are extended past wall 27 and are curled to form hinge lugs 28 and 29 to engage hinge pintle 22 to pivotally support stove unit 23 so that it can be swung between its vertical, inoperative position and its horizontal operative position. The surface 20 of compartment 13 abuts hinge lugs 29 when the stove unit is moved to its horizontal, operating position, to limit the downward movement of the unit and to hold it in its horizontal position. Lugs 28 and 29 interfit and extend across the entire width of the housing. Metal strips 30 cover the outer surface of hinge pintle 22 exposed between lugs 29. Opposite ends of each strip 30 extend through slots 31 and 32 provided in the walls of housing 13 and are secured to the inner surface of the housing in any suitable manner.

Inner wall 24 is provided with two openings in each of which a burner 33 is mounted. Each burner comprises a shell 34 and a spiral heating coil 35 (Fig. 5) supported on a spider 36 mounted within shell 34. End walls 37 and 38 complete the stove housing which encloses shell 34, wiring 39, and a plurality of switches 40. An operating stud 41 for each switch extends through wall 26 and is secured thereto. Wall 26 is also provided with a pair of handles 42 for facilitating the pivotal movement of the stove unit about hinge pintle 22.

The two broiler units 43 are duplicates and therefore only one will be described. A channel 44 mounted vertically adjacent side wall 7 cooperates therewith to form a compartment 45 to receive wiring 46. Bearings 47 and 48 are provided adjacent top wall 5 in laterally spaced relationship. The bearings are spaced apart a

distance slightly greater than the width of the broiler unit. The broiler unit comprises an outer shell 49 having one wall 50 secured to trunnions 51 and 52 rotatably mounted in bearings 47 and 48, respectively. An inner shell 53, having its wall 54 corresponding to wall 50 secured to trunnions 51 and 52, is spaced from outer shell 49 by a layer of insulating material 55. The inner shell serves as a reflecting shield to direct the heat from the broiler unit downwardly towards a pan positioned under the broiler unit.

A frame 56, secured to inner shell 53 in any suitable manner, has secured thereto a heating coil 57 connected to wiring 46. Trunnion 51 is hollow to permit wiring 46 to extend therethrough. Wiring 46 extends through compartment 12, housing 13, and into the stove housing where it is connected to one of the switches 40. Frame 56 includes a bracket 58 having a slot 59 extending longitudinally from one end thereof. A notch 60 (Fig. 12) is provided in one edge of bracket 58 adjacent slot 59.

A link 61, pivoted at one end to a bracket 62, as indicated at 63, has a screw 64 projecting laterally from its opposite end portion. Screw 64 is slidably mounted in slot 59. Bracket 62 is rigidly secured to a bar 65 which extends transversely across back wall 4 and is secured at its ends to channels 44. Broiler unit 43 is provided with a handle in the form of a projecting flange 66 to facilitate pivotal movement thereof. When the broiler unit is lifted by pulling handle 66 outwardly and upwardly the broiler unit pivots in bearings 47, and link 61 pivots about the pivot 63. This pivot arrangement causes screw 64 to slide in slot 59 towards the open end of the slot as the broiler unit is lifted to horizontal, operating position. When the broiler unit reaches its horizontal position the screw 64 seats in notch 60 to hold the broiler unit in its horizontal position. In order to move the broiler unit back to its inoperative position it is lifted slightly to disengage screw 64 from notch 60 and then allowed to drop downwardly.

A channel 67, mounted on base 2 rearwardly of flange 9, is provided with a plurality of vertically spaced notches 68 extending across its side walls which extend inwardly to face a similar channel 69, adjacent flange 10. The side walls of channel 69 are provided with notches 70 aligned horizontally with notches 68. Channels 67 and 69 are of less width than side walls 7 and 8 and are positioned adjacent flanges 9 and 10 so that both sets of notches are spaced forwardly of back wall 4. Channels 67 and 69 are concealed by the outer edges of stove unit 23 when the stove unit is in its vertical position, but are exposed when the stove unit is in its horizontal position. A pan 71, having a width approximately equal to the width of the stove unit, is provided on each edge with a channel 72 adapted to slide into notches 68 and 70 when the broiler units are in their horizontal, operative position. The flanges of each channel 72 are spaced apart a distance equal to the vertical spacing between the notches of each channel 67 and 69, so that they fit in adjacent notches to hold the pan firmly at any desired distance from the heating coils 57. A grid 73 (Fig. 10) may be placed on the upper edges of pan 71 to support food to be broiled out of contact with the bottom of the pan.

A guide strip 74 extends vertically along the center of base 2. Strip 74 is provided with notches 75 on one side. Notches 75 are aligned with notches 68 and cooperate therewith to receive channels 76 of a pan 77 which has a width equal to the width of one of the broiler units. It will be noted that channels 72 extend rearwardly of the back wall 78 of pan 71. When pan 71 is in position for use, its back wall 78 is forwardly of the front surface of guide strip 74. Normally the smaller pan 77 is used under a single broiler unit and pan 71 is used when both broiler units are used. However, strip 74 may be provided with notches 75 on each side so that separate pans 77 may be used when both broiler units are used. Whichever pan is used, channels 72 or 76 slide through the appropriate notches and extend substantially to back wall 4. The positioning of channels 67 and 69 and guide strip 74 forwardly of back wall 4 provides stability for the support of the pans which are held in place solely by the interengagement of flanges 72 and 76 with notches 68, 70 and 75.

Separate switches 40, each with its own operating stud 41, are provided for each of the stove units 23 and for the heating coil of each broiler unit, so that each stove unit and each broiler unit may be used independently of the others. Each unit may be provided with a safety switch adapted to automatically open the circuit of its heating coils when the particular unit is moved to its vertical inoperative position.

Splash shields may be hinged to opposite sides of the base, if desired, to swing outwardly whenever any of the units is being used to protect the area adjacent the stove or broiler from the splattering of grease.

While I have described a preferred embodiment of my invention in considerable detail, it will be understood that the description thereof is intended to be illustrative, rather than restrictive, as many details may be modified or changed without departing from the spiirt or scope of the invention. Accordingly, I do not desire to be restricted to the exact construction described.

I claim:

1. A broiler comprising a base adapted to be secured in vertical position on a suitable vertical supporting surface, said base comprising a back wall adapted to be juxtaposed against a vertical supporting surface, and top, bottom and side walls extending outwardly of said back wall when said base is secured on a vertical supporting surface, a broiler unit pivotally secured to said base to swing between a vertical, inoperative position and a horizontal, operative position extending forwardly from said base at right angles thereto, said broiler unit when in inoperative position being contained entirely within said base, and means to detachably secure a pan to said base when said broiler is in its horizontal position, said pan extending forwardly from said base under said broiler unit and in parallel relationship to it.

2. A broiler comprising a base adapted to be secured in vertical position on a suitable vertical supporting surface, a pair of broiler units pivotally secured to said base along horizontally aligned hinge means to swing independently between a vertical, inoperative position entirely within said base and a horizontal, operative position extending forwardly from said base at right angles thereto, and a pair of channels mounted on said base, said channels being positioned adjacent opposite sides of said base and having vertically spaced notches whereby said channels are adapted to cooperate with each other to support a pan having lateral flanges adapted to be received in said notches and having a width approximately equal to both of said broiler units, and a guide strip mounted on said base intermediate said channels and having vertically spaced notches aligned horizontally with the notches of said channels whereby said guide strip is adapted to cooperate with one of said two channels to support a pan having lateral flanges adapted to be received in the notches of one channel and the notches of said guide strip and having a width approximately equal to one of said broiler units.

3. A combination stove and broiler comprising a base adapted to be secured in vertical position on a suitable vertical supporting surface, a broiler unit pivotally mounted adjacent the upper end of said base to swing between a vertical, inoperative position within said base and a horizontal, operative position extending forwardly from said base at right angles thereto, a stove unit pivotally mounted on the lower end portion of said base to swing between a vertical, inoperative position and a horizontal, operative position, said stove unit being positioned in front of said broiler unit when both of said units are in vertical, inoperative position, and means for hold-

ing said stove and broiler units in horizontal, operative position.

4. A combination stove and broiler comprising a base adapted to be secured in vertical position on a suitable vertical supporting surface, a broiler unit pivotally mounted adjacent the upper end of said base to swing between a vertical, inoperative position within said base and a horizontal, operative position extending forwardly from said base at right angles thereto, a stove unit pivotally mounted on the lower end portion of said base to swing between a vertical, inoperative poistion and a horizontal, operative position, and means for detachably securing a pan to said base under said broiler and in parallel relationship thereto when said broiler is in its horizontal, operative position.

5. A broiler comprising a base adapted to be secured in vertical position on a suitable supporting surface, a pair of bearings mounted in the upper end portion of said base and extending horizontally thereof, a broiler unit pivotally mounted in said bearings, said broiler unit having

a bracket provided with a slot extending longitudinally thereof, and a link having a projection adjacent one end extending into said slot, the other end of said link being pivoted below said bearings whereby said projection moves in said slot as said broiler unit is moved about its pivot, and means on said bracket cooperating with said projection to hold said broiler unit in horizontal position.

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