Jan. 11, 1938. C. H. HOFFSTETTER ET AL 2,105,418

BROILER DRAWER FOR GAS RANGES AND THE LIKE

Filed Nov. 10, 1936 2 Sheets-Sheet 1

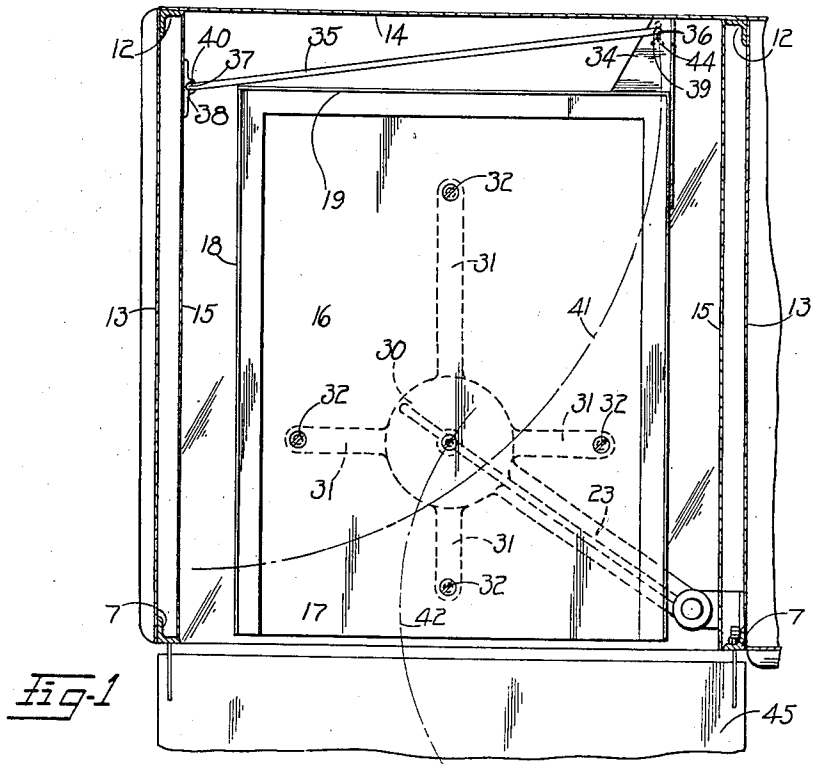



Fig-1

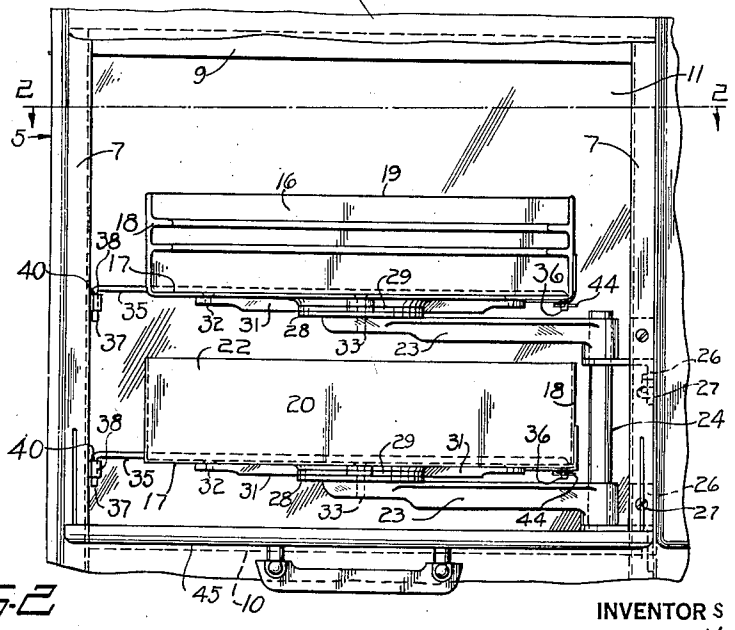



Fig-2

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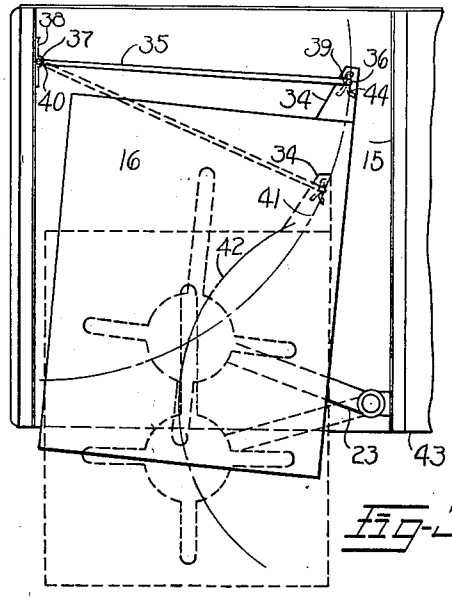



Fig-3

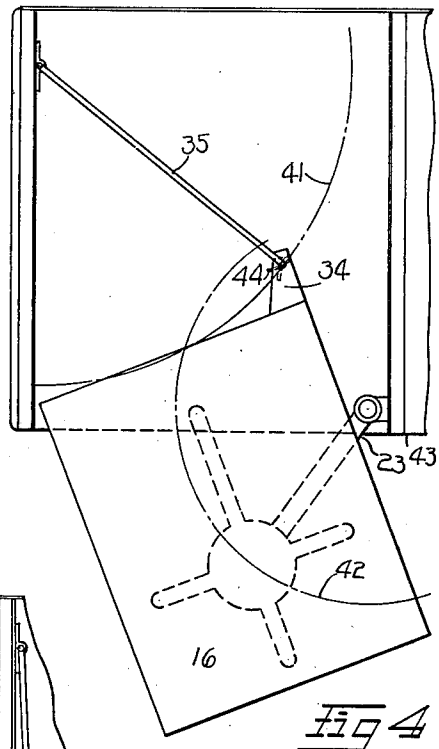



Fig 4

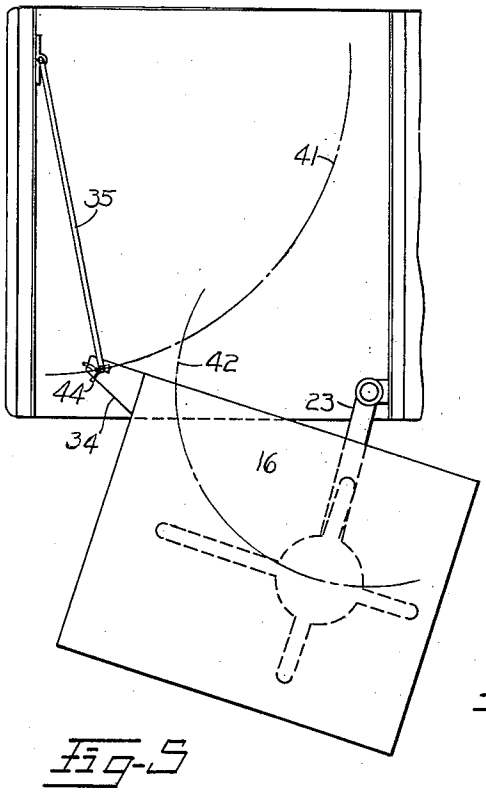



Fig-5

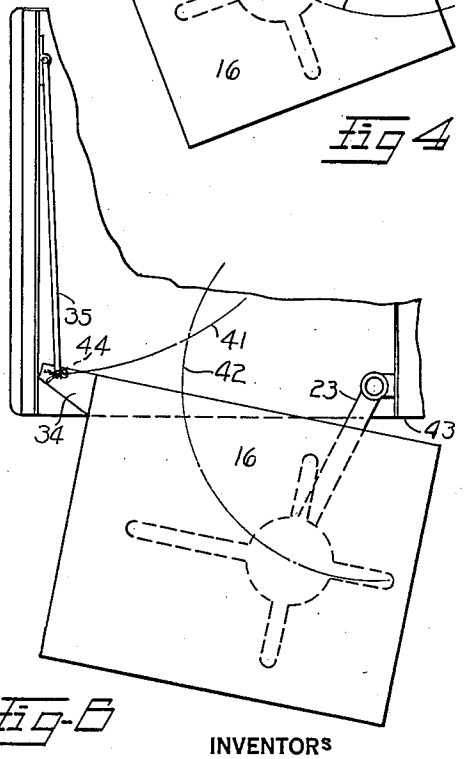



Fig-6

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# UNITED STATES PATENT OFFICE

2,105,418

## BROILER DRAWER FOR GAS RANGES AND THE LIKE

Carl H. Hoffstetter and Robert F. Hoffstetter,
Erie, Pa.

Application November 10, 1936, Serial No. 110,166

8 Claims. (Cl. 126—337)

Our invention relates in general to the construction of cooking stoves and more particularly to broiling ovens or broilers which are a part thereof.

Prior to our invention it has been customary to provide a broiler oven with a slidably mounted rectangular container for a broiler pan or grid, adapted to be pulled outwardly through the oven door opening after the manner of a drawer, to permit access to the broiler pan for basting or other purposes. In some instances means has been provided for swingingly mounting the drawers or containers for partial withdrawal through the door opening. As these drawers are of considerably greater length than width they are difficult to support in substantially fully extended or withdrawn position and furthermore, because of their length are an obstacle to the free movements of the housewife.

One of the principal objects of the present invention is to provide simple and inexpensive means for moving a rectangular broiler drawer or container outwardly substantially through an oven door opening and adapted to automatically turn or direct the container so that the sides of the drawer will be substantially parallel with the front of the oven, when in fully withdrawn position.

Other objects and advantages of the invention will be apparent as this specification is considered in connection with the accompanying drawings, in which:

Figure 1 is a sectional view of the broiler oven unit of gas range shown in Figure 2 and taken on the line 2—2 of Figure 2;

Figure 2 is an end view of the broiler oven unit of a gas range, the broiler and utility drawers being shown in normal position within the oven, with the stop bracket in contact with the rear wall of the oven;

Figure 3 is a plan view showing the broiler drawer in partially withdrawn position;

Figure 4 is a plan view showing the broiler as it passes through the oven door opening and is being turned broadside to the broiler oven;

Figure 5 is a plan view showing the position assumed by the broiler drawer when in fully withdrawn position; and

Figure 6 is a plan view showing the oven drawer slightly receded from Figure 5 position with the bracket or stop in contact with the side wall of the oven.

Referring more particularly to the drawings wherein we have illustrated a preferred embodiment of our invention, as applied to a gas range, 5 denotes an oven unit of a gas range. The oven comprises at its forward end a front frame, having side members 7 and top and bottom members 9 and 10 defining an oven door opening 11, normally closed by a door 45, and at the rear of the oven there are the usual upright frame members 12. The outer side walls 13 and the rear wall 14 of the range are connected to and enclose these frame members. The oven lining or inner side walls 15 are also connected to the frame members in any desirable manner.

An elongated broiler drawer or container 16 comprising bottom wall 17, side walls 18 and rear end wall 19 is supported at a convenient height within the oven 5 for forward and return movement through the oven door opening 11, and beneath the broiler drawer 16, is a general utility drawer 20, which is supported in the same manner as the broiler drawer. These two drawers are of substantially the same construction, with the exception that the broiler drawer is open at its front end and its side walls are provided with stepped ledges 21, for slidably receiving a broiler pan or grid, whereas the side walls of the utility drawer are not so provided and the front end of the latter is closed by an end wall 22.

The utility drawer supporting and movement controlling means comprises a crank arm 23 pivotally mounted at its inner end on the lower end of a vertically disposed shaft 24, fixedly mounted in spaced brackets 26, in turn secured to one of the side frame members 7 by means of bolts 27. The outer end of crank arm 23 is formed with an enlarged disc shaped portion 28, adapted to provide a bearing surface for the similarly shaped portion 29, of a spider 30, the arms 31 of which are secured to the under face of the bottom wall 17, by bolts or other fastening means 32. A pin or bolt 33 passing loosely through these bearing surfaces pivotally connects the utility drawer to the crank arm 23. As the means for supporting the broiler drawer 16 and controlling the movement thereof through the door opening 11, are identical with the mechanism just described, it will suffice to say that a second crank arm 23 pivotally mounted at its inner end on the upper end of shaft 24 pivotally supports the broiler drawer at its outer end. The drawers are thus independently supported and capable of independent movement with respect to each other.

It will be noted from an inspection of Figures 1 and 2 that the drawers 16 and 20, when in normal retracted position within the oven are axially

aligned with each other and with the side walls of the oven. When in this position a bracket **34**, secured to a rear corner of each drawer, engages the back wall **14** of the oven and prevents further inward movement of the drawer to which it is attached. As the drawers substantially fill the oven space, that is, are of substantially the same depth and width as the oven, any attempt to swing or pull the rectangular drawers outwardly through the rectangular door opening and into the desired position across the opening or back to normal position within the oven, with the mechanism so far described, causes the drawers to clash with the sides of the oven. This is due to the fact that the crank arms **23**, cause the axis of the pivots **33** to move first toward one side of the oven and then toward the opposite side thereof, with the result that the rear ends of the drawers are swung into contact with the oven walls.

The foregoing objection is obviated by the provision of means for positively and automatically causing the rear ends of the drawers to move in a predetermined path spaced from the oven walls. Thus each drawer is provided with a rod **35** having its oppositely bent end portions **36** and **37** pivotally connected to a bracket **34** at the right hand end of the drawer, viewing Figure **1**, and to a bracket **38** on the left hand lining wall **15** of the oven respectively. The bent ends of these rods can readily be inserted in and removed from the pivot openings **39** and **40** provided in these brackets. A cotter pin **44** holds end **36** in place.

While it is believed that the operation of the drawers will be clear from the foregoing the following brief description is given. For the housewife to withdraw the broiler drawer **16** from the oven, it is merely necessary for her to pull the drawer outwardly from Figure 1 to Figure 3 position. As the inner end of arm **23** moves forwardly it causes the front end of the drawer **16** to approach the left side of the oven and thence out through the door opening. At the same time the rod **35** steers the rear end of drawer to the left and if the pull on the drawer is continued, when the drawer has reached a position approximately half way through the door opening, the sides of the drawer will be parallel with the oven walls, as shown in dotted lines in said Figure 3. From this point the drawer is moved to Figure 4 position at which time the front end of the drawer has been deflected to the right and thence finally to Figure 5 position. A slight reverse or inward pressure exerted against the drawer will now cause the latter to slightly recede to Figure 6 position or until this movement is stopped by engagement of bracket **34** with the oven lining **15**. This bracket also contacts rear wall **14** and serves as a stop to limit the inward movement of the drawer and to properly center the latter with respect to the oven, as illustrated in Figure 1. The path or arc travelled by the axis of the pivotal connection between the bracket **34** and arm **35** and the axis of the pivot pin **33**, during the drawer movements just described are indicated by the lines **41** and **42** respectively. It should be noted however that these movements in effect constitute a single movement, the final movement from Figure 5 to Figure 6 position being more or less automatic due to the fact that while the drawer is moving from Figure 4 to Figure 5 position, the bracket **34** is being pulled or steered by the arm **35** toward the left side of the oven and this movement is continued more or less under the action of centrifugal force. In actual practice the drawer is pulled out from or pushed back into the oven with an extremely free and practically uninterrupted single movement on the part of the housewife.

When in Figure 6 position, it will be noted that the drawer extends across the oven door opening and with the sides of the drawer substantially parallel with the front wall **43** of the range. In this position the drawer is projected into the room a minimum distance and the open end of the drawer is in position alongside the face of the stove to permit of a broiler pan with its heavy contents being slid off the racks **21** and conveniently placed on the stove. The housewife also has ample room, where the range is installed in restricted quarters, to stand beside the stove and directly in front of drawer opening when basting, turning or otherwise attending to the contents of the broiler pan. This would not be possible if the drawer projected outwardly through the door opening at right angles to the front of the range. Of course our improved drawer mechanism is applicable to baking ovens and other types of drawers than those illustrated herein. Where the invention is incorporated in a broiler oven, it will be understood that heat will be supplied by means of a broiler burner, not shown, suitably positioned in the oven, above the broiler drawer, so that the roast or other content of a broiler pan, positioned within the drawer, is thus exposed to the burner flame.

What we claim is:

1. In a device of the character described, an oven having a door opening, supporting means pivotally mounted in said oven, a drawer pivotally supported on said means for movement through said opening substantially outside said oven and into a lengthwise position substantially parallel with the front of the oven and means pivotally mounted in said oven and pivoted to said drawer for steering the rear end of the drawer during said movement.

2. In a device of the character described, an oven having a door opening, supporting means pivotally mounted in said oven, a drawer pivotally supported on said means for movement through said opening substantially outside said oven and into a lengthwise position substantially parallel with the front of the oven, a bracket on the rear end of said drawer, a bracket mounted in said oven, and a rod pivotally connected at its opposite ends to said brackets for steering the rear end of the drawer during said movement.

3. In a device of the character described, an oven having a door opening, a shaft in said oven, a crank arm having one end pivotally mounted on said shaft, an oven drawer pivotally supported on the other end of said crank arm for movement through said door opening, and into a position substantially outside said oven and substantially at right angles to the depth of said oven.

4. In a device of the character described, an oven having a door opening, a shaft in said oven, a crank arm having one end pivotally mounted on said shaft, an oven drawer pivotally supported on the other end of said crank arm for movement through said door opening, and into a position substantially outside said oven and substantially at right angles to the depth of said oven and means mounted in said oven and pivotally connected to said drawer for steering the rear end of the drawer during said movement.

5. In a device of the character described, an oven having a door opening, a shaft in said oven, a crank arm having one end pivotally

mounted on said shaft, an oven drawer pivotally supported on the other end of said crank arm for movement through said door opening, and into a position substantially outside said oven and substantially at right angles to the depth of said oven, a bracket on the rear end of said drawer, a bracket mounted in said oven, and a rod pivotally connected at its opposite ends to said brackets for steering the rear end of the drawer out of contact with the walls of the oven.

6. In a device of the character described, a rectangular oven having a door opening, a pair of elongated rectangular drawers pivotally mounted one above the other in parallel centered position within said oven for independent movement through said opening and into substantially lengthwise position relative to said door opening.

7. In a device of the character described, an oven of greater depth than width and having a door opening in the front, an elongated drawer approximately the size of the oven and pivotally mounted therein to have an outward rotary swinging movement through the door opening and having means to cause it to assume a position substantially parallel with the front of the oven when it has reached its limit of outward movement.

8. In a device of the character described, an oven having a door opening, supporting means pivotally mounted in said oven, a drawer pivotally supported on said means for movement through said opening substantially outside said oven and into a lengthwise position substantially parallel with the front of the oven, and means for steering the rear end of the drawer during said movement.

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