Aug. 18, 1953 R. B. HURT 2,649,085

BROILER DOOR AND RACK

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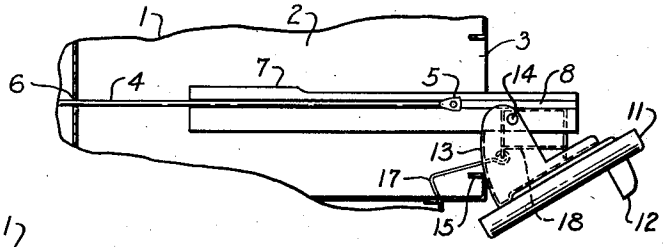


Fig. 2.

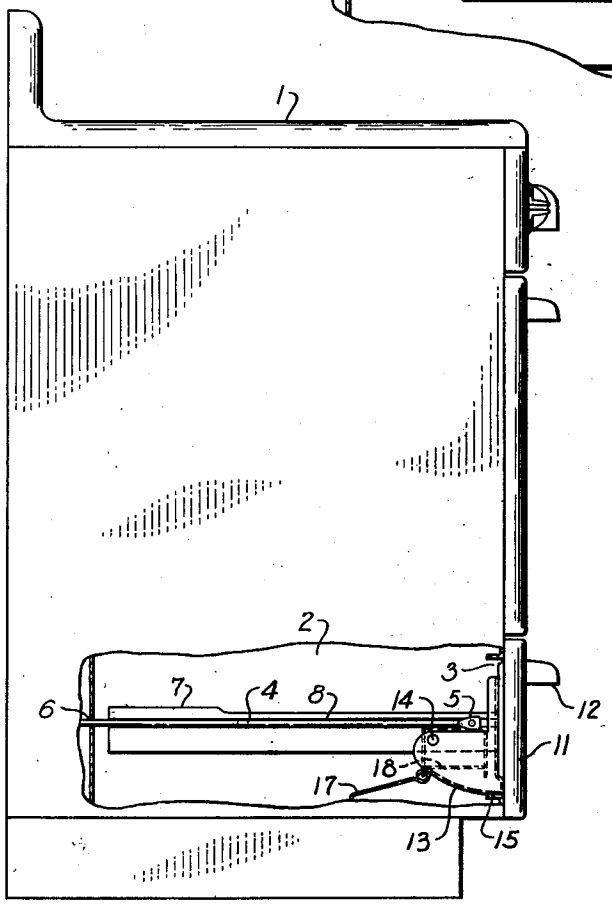


Fig. 1.

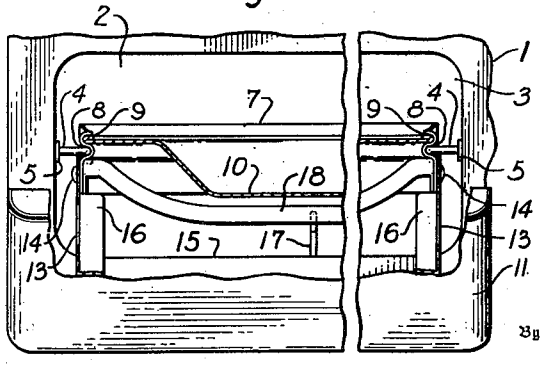


Fig. 3.

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BROILER DOOR AND RACK

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2 Claims. (Cl. 126—41)

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This invention relates to cooking stoves and more particularly to a novel broiler compartment, broiler drawer and broiler door construction.

In cooking stoves of standard construction, a broiling compartment is usually provided below an oven, the broiler thus being located very low, near the floor. The articles of food cooked in a broiler are exposed to high temperatures and consequently cook rapidly, so that it is necessary to inspect them frequently to determine whether or not their cooking has been completed and to avoid burning them. In stoves of inexpensive construction, such broilers have heretofore been provided with doors hinged at one side and, to inspect the food, it has been necessary for the cook to stoop down low to look at the food, or to grasp a hot tray and pull it out until she could see the food on it.

One object of this invention is to provide a broiling compartment, drawer and door which are simple and inexpensive in construction and convenient in operation.

Another object is to provide a broiler drawer and door combination which make inspection of the food being cooked in a broiler compartment a simple and convenient matter.

A further object of this invention is to provide a broiler drawer and door construction such that pulling the door and drawer out slightly will permit the door automatically to swing downwardly a sufficient amount to permit ready sighting of the broiler's contents and/or to remove a sliding pan in the drawer.

Still another object is to provide a broiler drawer and door construction such that pulling the door and drawer out slightly will permit the door automatically to swing downwardly to substantially a horizontal position and pushing the door and drawer inwardly will swing the door upwardly, lifting it to a vertical, closed position.

The foregoing and other objects, features and advantages of this invention will be apparent from the following description and from the accompanying drawings of a preferred embodiment, it being understood that the detailed description and drawings are merely illustrative of the invention, which is defined in the claims.

In the drawings,

Figure 1 is a side elevation of a cooking stove provided with a broiler drawer construction embodying my invention, with the lower part shown broken away to disclose the closed broiler drawer.

Figure 2 is a view similar to Figure 1, but showing only the broiler compartment, with its drawer in an open position.

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Figure 3 is a partial front elevation of the stove, partly broken away, showing the broiler drawer in open position the broiling pan being shown in section.

Like reference numerals refer to like parts throughout the several figures of the drawings.

According to this invention, a stove or range 1 is provided with a broiling oven or compartment 2 having a door opening 3. A pair of rods 4 are provided, one being secured at its front end to each side of the compartment, as by means of a bolt passing through a hole in a flanged end 5 of the rod. The rod is bent inwardly from its flange 5, as may be seen in Figure 3, and its other end may be conveniently and inexpensively supported by passing it through a hole 6 formed in the back lining of the broiler compartment. The holes in the sides of the compartment through which the flanges 5 are supported and the holes 6 in the back of the compartment are on the same level, so as to support the rods 4 in approximately horizontal positions.

A broiler drawer or rack 7, which may be formed of sheet metal stamped in the desired shape, is provided with grooved sides, an external groove 8 in each side being adapted to fit over the rod 4 on that side, so that the rods extend horizontally in the grooves 8 to slidably support the drawer 7. The drawer or rack is also provided with internally extending grooves 9 in each side thereof for slidably receiving and supporting a broiling pan or tray 10 for receiving the food to be cooked.

A door 11, having a handle 12, is provided for closing the opening 3 of the broiling compartment 2. On the inner side of the door, near each end, a cam 13 is secured thereto, the cam extending inwardly from the door in substantially a vertical plane. The cams are pivotally attached to the sides of the drawer 7, as by means of bolts 14, and their lower surfaces rest upon the lower sill 15 of the door opening 3 when the door 11 is closed or nearly closed. As may be seen in Figure 3, the cams 13 have laterally extending portions 16, these lateral portions serving two purposes. First, they stop the downward swing of the cams and the door to which they are secured when their ledges come into contact with the lower edges of the sides of the drawer or rack 7, the ledges of the lateral portions 16 being so located that they abut against the lower edges of the drawer only when the door 11 has swung downwardly completely clear of the end of the rack 7 to permit ready removal of the tray 10, as may be clearly seen in Figures 2 and 3. The other purpose served by the lateral portions 16 of

the cams 13 is that of being the active surfaces of the cams. Thus, when the door is open with the rack pulled out and it is desired to close it, pushing on the handle 12 or on the door, itself, will force the rack 7 inwardly and at the same time will force the lateral portions 16 of the cams 13 against the lower sill 15 of the frame of the door opening 3. As force in this direction is continued, it causes the lateral portions 16, which are the active surfaces of the cams, to ride up on the sill 15, thus causing the door 11 to swing upwardly to a vertical position, in which it closes the opening 3, as illustrated in Figure 1.

It is desirable to provide means for preventing the unintentional removal of the drawer too far so that it will come off the support rods 4. A simple but effective means for this purpose comprises a wire hook 17 pivotally attached to the front, transverse frame member 18 of the drawer or rack 7. The hook is pivoted freely to the transverse member 18 and thus falls down of its own weight. When the drawer is pulled out sufficiently, the hook engages the inner surface of the sill 15 of the door frame and thus prevents unintentional removal of the drawer entirely from the broiling compartment 2. If desired to remove it entirely, of course, it is necessary only to lift the hook 17 out of engagement with the sill 15, when the drawer 7 can be pulled entirely out of the broiling compartment 2.

It will readily be seen that, in operation, this door and rack mechanism are convenient and automatic. When the door and rack are pulled outwardly, the door swings or pivots downwardly, of its own weight, with the lateral portions 16 of the cams 13 in engagement with the edge of the sill 15 until the door and cams are pulled outwardly enough that the cams are outside of contact with the sill, when the ledges of the lateral portions 16 then come into abutment with the lower edges of the sides of the drawer 7 to prevent the door from falling farther than is necessary. In that position, as may be seen in Figures 2 and 3, the door is down far enough, in a nearly horizontal position, to open the front end of the drawer or rack 7 completely, thus permitting ready removal or insertion of the pan 10. With this arrangement, since the cams 13 are pivoted on the bolts 14 near the front end of the drawer, it is not necessary to open the door and drawer very far to have ready access to the interior of the broiler. This is a far more satisfactory arrangement than that of the old-type broiler having a horizontally swinging door on vertical hinges, with which it was necessary for the cook to reach down low to pull out a broiler rack or to look into the broiler. With this invention, the broiler rack or drawer is pulled out automatically as the door is opened, sufficiently to permit ready inspection of the food being cooked in the broiler or easy removal or insertion of the pan, which slides in the grooves 9 in the drawer.

When the drawer and door are to be closed, it is not necessary to lift the door, but merely pushing on it, or on its handle 12, will force the lateral portions 16 of the cams 13 to ride up on the sill 15, thereby causing the door 11 to be lifted and swung to a vertical position, in which it closes the door opening 3.

The action of the door in swinging downwardly when it is opened slightly makes it a very convenient arrangement for providing access to the broiling compartment, and, since the cams lift and swing the door upwardly automatically when it is pushed closed, it is a very convenient, easily handled mechanism and, in addition, is inexpensive in construction.

The method of slidably supporting the drawer by means of rods fitting in the grooves of the drawer provides a simple and very inexpensive type of construction, which, at the same time, is eminently satisfactory in use.

I claim:

1. In a cooking stove having a broiler compartment positioned below an oven, a broiler drawer having grooved sides, a rod secured to each side of said broiler compartment and extending horizontally in the grooved sides of said drawer to slidably support same, a door for said broiler compartment, cams fastened to said door, said door being pivotally attached to the sides of said drawer near the front thereof by means of said cams, the weight of said door causing it to rotate to substantially a horizontal position below the level of said drawer when the drawer is pulled out slightly, said cams having laterally extending portions which contact the sides of the drawer when the door is opened to stop the door in a substantially horizontal position.

2. In a cooking stove having a broiler compartment positioned below an oven, a broiler drawer, a door for said broiler compartment, a plurality of cams fastened to said door, said door being pivotally attached to the sides of said drawer near the front thereof by means of said cams, said cams having laterally extending portions which contact the sides of the drawer when the door is opened to stop the door in a substantially horizontal position.

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