

Sept. 13, 1938.

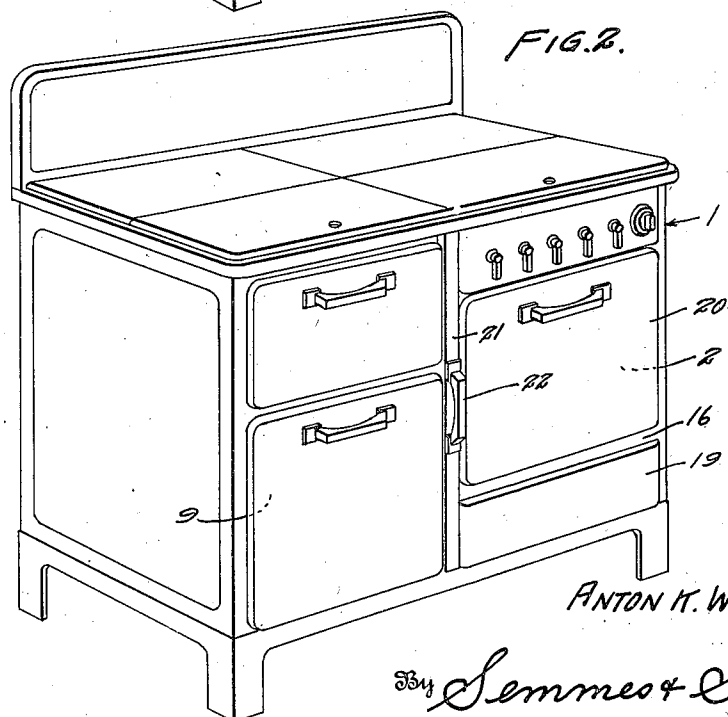
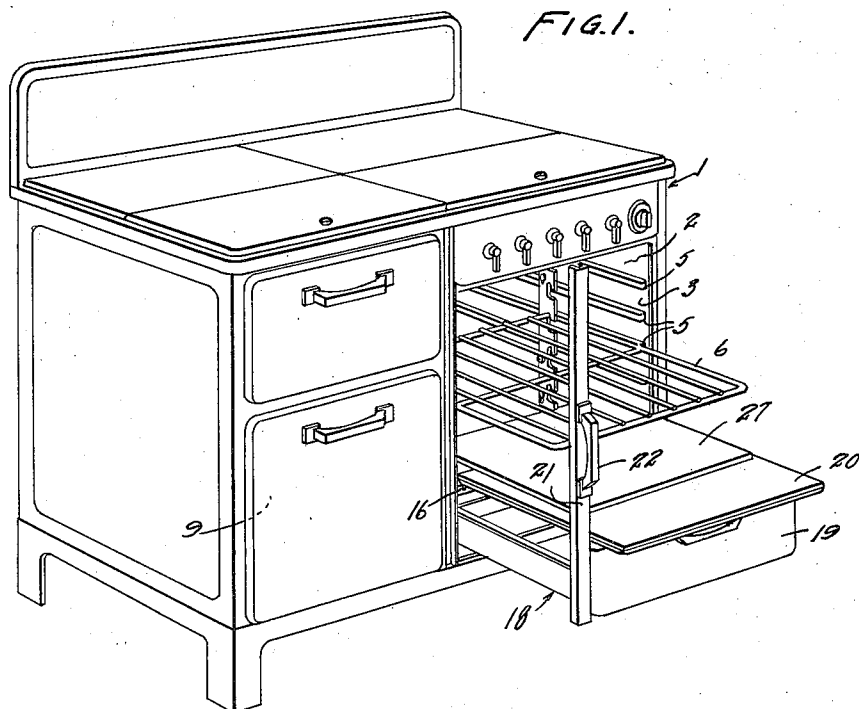
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2,130,168

OVEN CONSTRUCTION

Original Filed June 5, 1936

4 Sheets-Sheet 1



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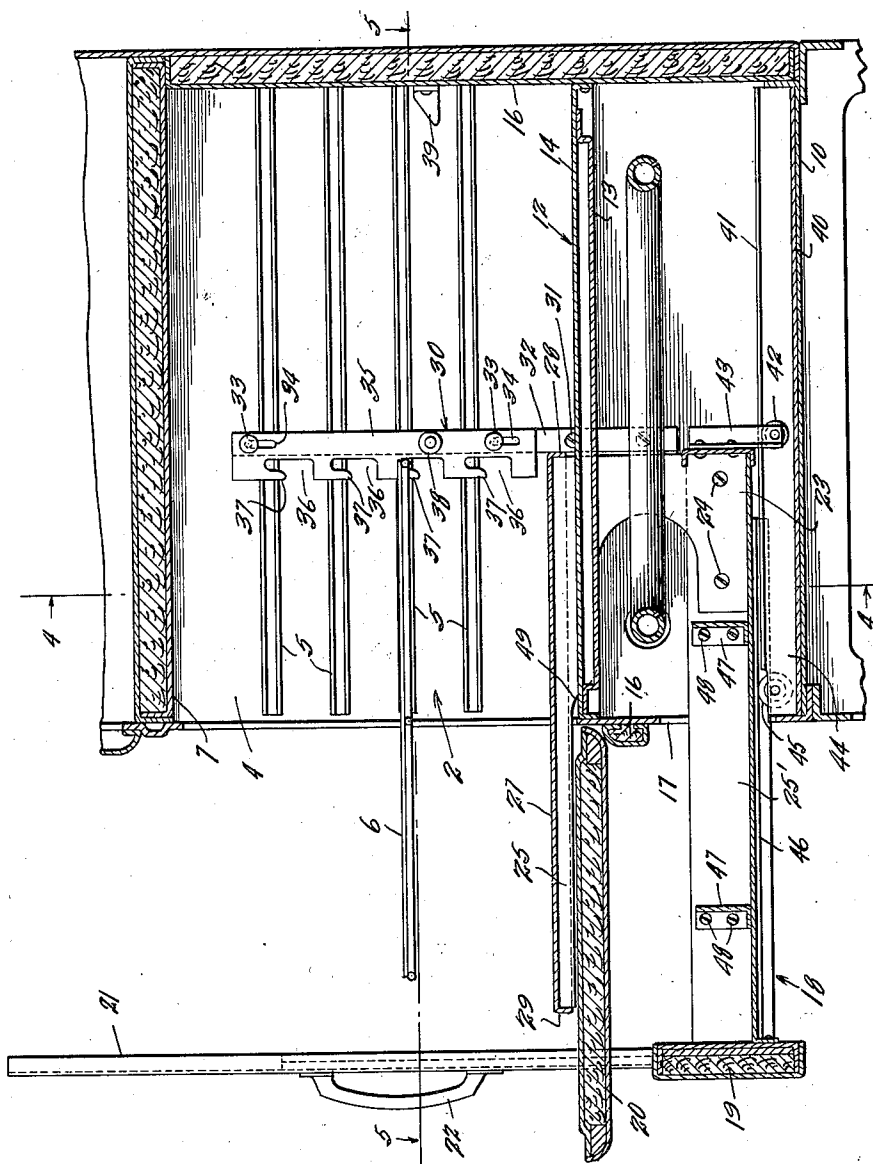
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FIG. 3.



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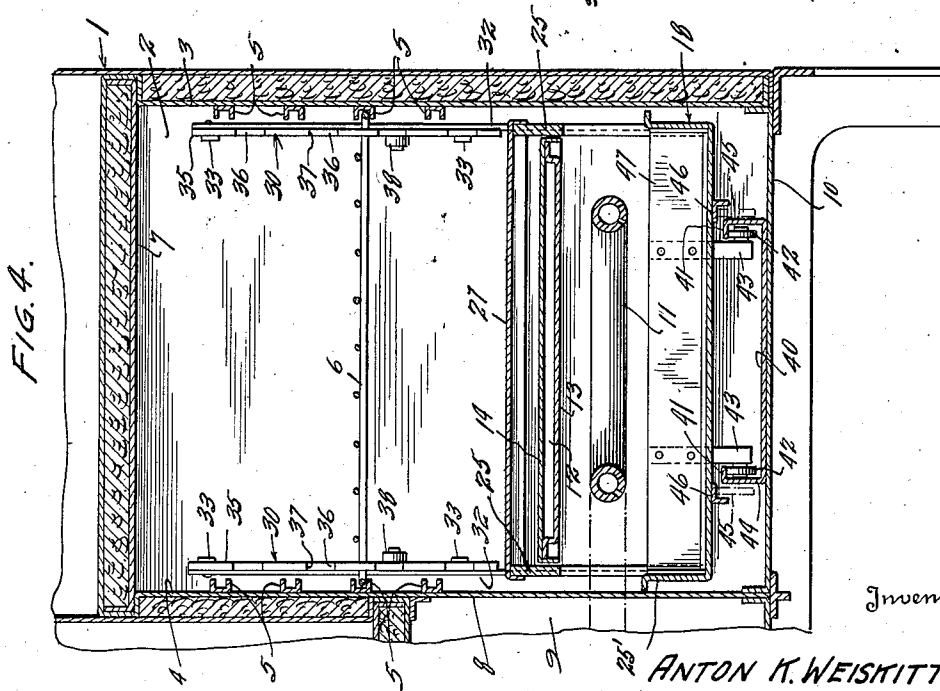
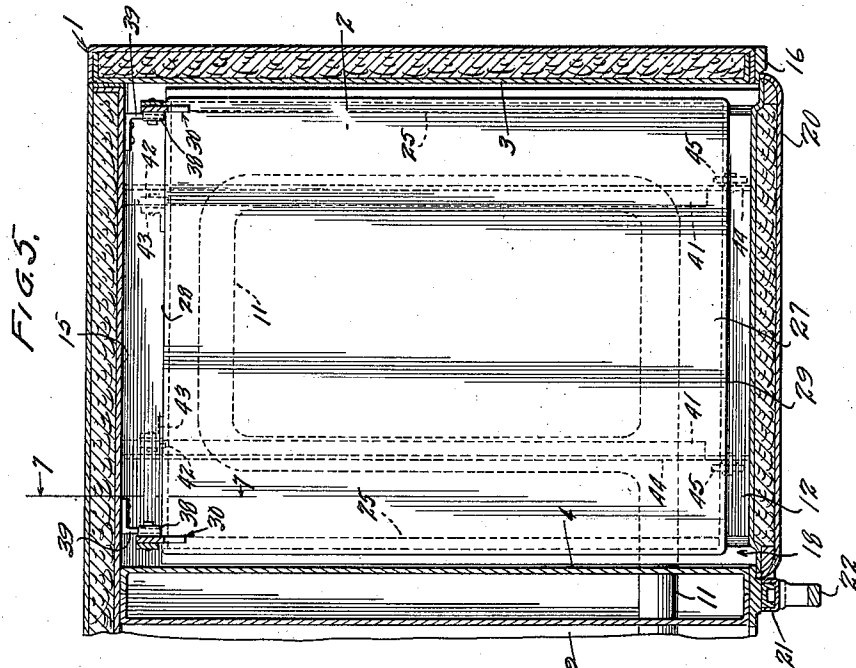
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4 Sheets-Sheet 4

FIG. 8.

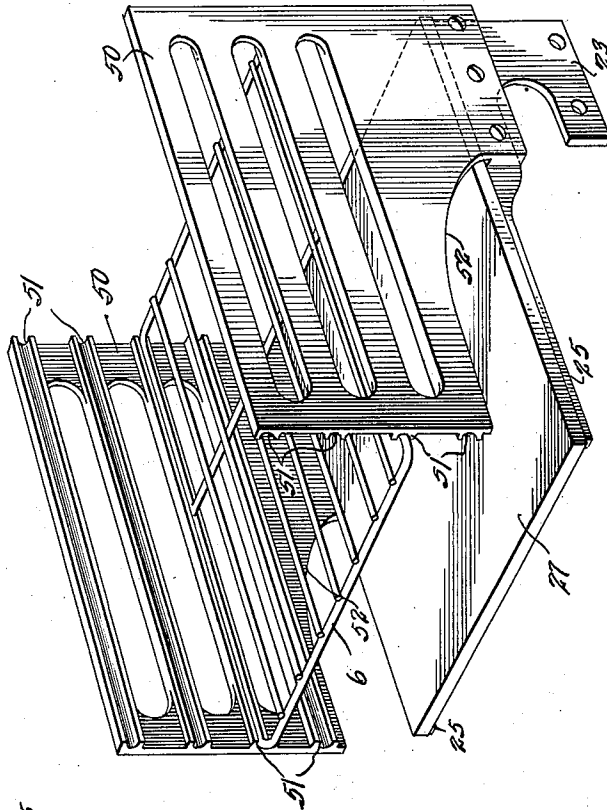


FIG. 6.

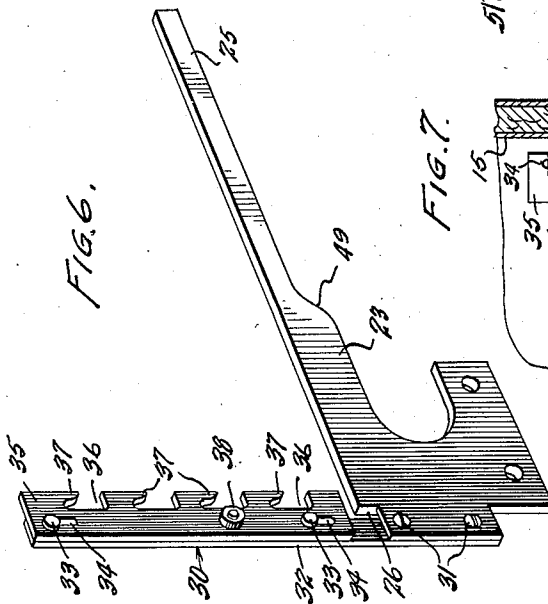
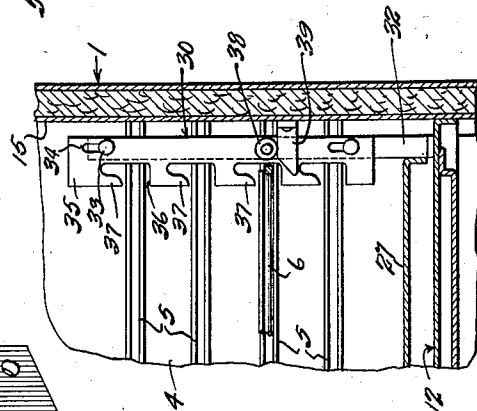


FIG. 7.



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UNITED STATES PATENT OFFICE

2,130,168

OVEN CONSTRUCTION

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corporation of Maryland

Original application June 5, 1936, Serial No.
83,799. Divided and this application November
20, 1936, Serial No. 111,945

9 Claims. (Cl. 126—339)

My invention relates to stove constructions, and more particularly to the construction of ovens for cooking stoves.

This application is a true division of my co-
5 pending application Serial No. 83,799, filed June 5, 1936.

Heretofore, it has been difficult to inspect food being cooked in the ordinary cooking stove ovens, as it was necessary to slide out the shelf on which
10 the food was resting by manual manipulation. The shelf was of course hot, and had to be handled with a protective device for the hand. At the same time there was danger of burning the hands, as well as inconvenience in time consumed in making the inspection, since the shelves
15 with their heavy weight of food upon them were often hard to move.

There was further danger that the shelf would be pulled out too far, allowing the food to be
20 spilled on the floor. These and other inconveniences and disadvantages of former constructions are in a large measure overcome by the present construction.

It is an object of my invention to devise an
25 oven wherein the food on the shelves can be readily inspected at all times during the cooking operation.

A further object of the invention is to devise a construction which will move out the shelf or support on which food is resting so that it will
30 project beyond the front of the oven and can be readily inspected.

Yet another object of the invention is to provide a construction which will accomplish the
35 above, which is simple, sturdy and inexpensive to manufacture.

A still further object of the invention is to provide a construction which is easy to repair and replace and in which there are few operating
40 parts.

With these and other objects in view, which may be incident to my improvements, the invention consists in the parts and combinations to be hereinafter set forth and claimed, with the understanding that the several necessary elements comprising my invention may be varied in construction, proportions and arrangement, without departing from the spirit and scope of the appended
50 claims.

In order to make my invention more clearly understood, I have shown in the accompanying drawings means for carrying the same into practical effect without limiting the improvements in
55 their useful applications to the particular con-

structions which, for the purpose of explanation, have been made the subject of illustration.

In the drawings:

Figure 1 is a perspective view of a stove, showing my pull-out oven construction in the pulled
5 out position.

Figure 2 is a perspective view of the same stove with the oven door shut and the pull-out construction concealed on the inside of the stove.

Figure 3 is a sectional view taken through the
10 oven and the pull-out construction, showing the position of the parts in the pulled out position.

Figure 4 is a view taken along the line 4—4 of Figure 3, looking in the direction of the arrows.

Figure 5 is a view taken along the line 5—5
15 of Figure 3, looking in the direction of the arrows.

Figure 6 is a detail perspective view of one of the holding members, and a portion of the sliding support.

Figure 7 is a view taken along the line 7—7 of
20 Figure 5, looking in the direction of the arrows.

Figure 8 is a detail perspective view of a modification of the sliding support member equipped with a novel form of shelf support frame.

Referring to the drawings, I have shown a
25 stove 1 having an oven 2 having side oven walls 3 and 4. On the side oven walls are grooved tracks 5 in which are adapted to slide shelves 6 which are generally of the usual open bar construction. The oven is provided with a top 7.
30 The side walls 3 and 4 and the top 7 are insulated, as indicated in the drawings, with some suitable insulating material. The lower portion of the side wall 4, which I have designated by the numeral 8, is not insulated, as it abuts against a
35 compartment 9 in which is adapted to be placed food to be kept hot.

The oven is provided with a metallic sheet bottom 10 which is provided with airholes, not shown. There is placed in the oven a heating
40 element of the usual construction 11, which lies under a baffle plate 12 composed of a lower metallic sheet member 13 and an upper metallic sheet member 14. The upper metallic sheet member 14 is riveted or otherwise suitably attached to an
45 insulated rear wall 15 of the oven 2, and also at the front end to a front wall construction 16, which comprises a relatively narrow strip across the front of the oven.

There is provided an aperture 17 in the front
50 wall in which is adapted to slide a sliding support 18 having an insulated front wall 19 which fits within the aperture 17 of the oven front wall 16 when the sliding support 18 is in the closed position. Hinged on the front wall 16 is
55

an insulated oven door 23. Attached at one side of the front wall 19 of the sliding support 18 is an upstanding handle support 21 which substantially at its mid-point carries a handle 22.

5 The handle 22 can be grasped by the hand of the user and the sliding support 18 either slid into the oven or pulled out. In the inner position the door 20 is closed, as shown in Figure 2. In the outer position the sliding support 18 carries with it the shelf 6.

Carried at the back of the sliding support 18 are two members 23 which may be fastened by bolts 24 to the inside of a tray 25', which is fastened at its front end to the front 19 of the sliding support 18. These two members 23 are of flat metal and are provided with forwardly extending arms 25. The members 23 are notched, as indicated at 26. A roasting oven bottom 27 of sheet metal has a downturned flange 28 which fits into the notches 26 of the members 23, and the downturned flange 29 which fits over the end of the arms 25. The bottom 27 of the roasting oven can be used to support food being cooked, as also can any of the shelves 6.

15 Holding members 30 are attached by bolts 31 to the members 23. The holding members comprise upstanding arms 32 having inwardly projecting lugs 33 which fit over slots 34 formed in sliding lock members 35. The lugs 33 are provided with enlarged heads which prevent them from coming out of the slots 34. The lugs 33 may be riveted in place on the arms 32, or otherwise suitably attached.

Each sliding lock member 35 is provided with notches 36 and downwardly projecting catches 37 which are adapted to fit over the rearmost wire of one of the trays 6 to hold the tray 6 securely to each holding member 30. When the sliding locking members 35 are in the raised position, however, the catches 37 do not engage the rearmost wire of the shelves 6, and the shelves 6 may freely slide in the grooved tracks 5.

Ordinarily, the pull of gravity on the sliding lock members 35 holds them in the down position, as indicated in Figure 3. In the rearmost position, however, of the sliding support 18, rollers 38 mounted on the sliding lock members 35 engage cams 39 affixed to the rear wall 15 of the oven 2. These rollers 38 contacting with cam surfaces on cam 39 raise the sliding lock members 35, releasing the rearmost wire of each shelf or tray 6. In this position of the parts, when the front door 20 is down, each shelf or tray 6 can be slid in its grooved tracks 5 by manual manipulation, so that a particular shelf may be moved with relationship to any other particular shelf. In the out position of the sliding support 18, however, all of the shelves are securely held in position by the sliding locking members 35 and the shelves are moved in unison.

For the purpose of simplicity and illustration, I have shown in the drawings but one shelf 6 in place. It is to be understood, however, that there may be a plurality of shelves, and that the pairs of opposed grooved tracks 5 are each supposed to support a tray or shelf if desired. This construction enables the trays or shelves to be used as desired, and their number varied, as well as the distance between them to suit the exigencies of the cooking operation.

70 In order that the sliding support 18 may be readily slid into the oven or pulled out, I have shown a support member 40 mounted in the bottom of the oven carrying at its end track members 41 against which are adapted to bear rollers

42 carried by supports 43, carried by the rear wall of the tray 25'. Mounted in the upturned ends 44 of the support 40 are rollers 45 which bear against tracks 46 carried by the bottom of the tray 25'.

This construction gives a cantilever support effect to the sliding support 18, the tray sliding on rollers 45 and being held from tipping by the action of rollers 42, see Figure 3. This construction permits of great ease in pulling in and out the sliding support 18.

In order to strengthen the tray 25', I have shown bracing elements 47 which are suitably attached by bolts 48 to the sides of the tray 25'.

In order to prevent the oven from being pulled out too far, I have shown downwardly curved arresting surfaces 49 formed on the arms 25 of the members 23. These arresting surfaces contact with the upper portion of the front 16 of the oven in the out position, see Figure 3, thus preventing the sliding support 18 from being pulled out too far.

From the above description it will be seen that all that is necessary to do is to pull the front door 20 into the down position, grasp the handle 22 and pull out the oven structure, including the bottom 27 and the trays 6. The extent to which this structure can be pulled out of the oven is governed by the position of the arresting surfaces 49 on the arms 25. When the sliding support 18 is in the rear position, the trays or shelves are freed from the sliding lock members 35, and can be moved relative to each other by manual manipulation.

In Figure 8 I have shown a modification in which there are mounted on the members 23 of the sliding support 18 shelf support frames 50 carrying on their inner surfaces grooved tracks 51 in which the shelves 6 are adapted to slide. The shelf support frames 50 are provided with lower curved surfaces 52 in order to lighten the construction. This construction permits of relative movement of the trays 6 in the out position of the sliding support 18, since there is no locking of the trays 6 in any definite position, the trays 6 merely traveling with the shelf support frames 50. This construction presents some advantages in permitting movement of the trays 6 when the sliding support 18 is pulled out, which is different from the operation of the construction previously described where the trays or shelves 6 can only be changed in position when the sliding support 18 is in the innermost position, and the cams 39 have raised the sliding lock members 35 through their action against the rollers 38 carried by the sliding lock members 35.

While I have shown and described the preferred embodiment of my invention, I wish it to be understood that I do not confine myself to the precise details of construction herein set forth, by way of illustration, as it is apparent that many changes and variations may be made therein, by those skilled in the art, without departing from the spirit of the invention, or exceeding the scope of the appended claims.

I claim:

1. In an oven construction, shelf support frames, shelves, a sliding support to which said frames are attached, means carried by the shelf support frames to slidably support the shelves, and means for moving the sliding support, comprising an upstanding handle support and a handle outside the oven.

2. In an oven construction, shelves, shelf support frames of solid sheet metal having cut-

away portions at the lower sides thereof to lighten the construction, a sliding support to which said frames are attached, means carried by the shelf support frames to slidably support the shelves, and means for moving the sliding support.

3. In an oven construction, shelves, shelf support frames, a sliding support in the oven upon which food is adapted to be placed to be cooked and on which the frames are supported, an upstanding handle support attached to said first mentioned support outside of the oven whereby the sliding support may be moved outwardly from the oven to inspect food being cooked, and a handle attached to the upstanding handle support.

4. In an oven construction, shelves, shelf support frames, a door for the oven, a sliding support in the oven upon which food is adapted to be placed to be cooked and on which the frames are mounted, adapted to lie above and below the door in its out position when the door is down, a handle attached to said support outside of the oven whereby the sliding support may be moved outwardly from the oven to inspect food being cooked.

5. In an oven construction, shelves, shelf support frames, a front piece for the oven, a movable support in the oven to support food being cooked and on which the frames are supported, and means to slide the support forward so that the food in the oven can be inspected, and curved arresting surfaces carried by the movable support having a progressively increasing pressure on the front piece to prevent movement of the movable support beyond a predetermined position.

6. In an oven construction, shelves, shelf support frames, a door for the oven, a sliding support in the oven on which the frames are supported, a roasting oven bottom adapted to lie over the open door in the out position of the sliding support, an upstanding handle support located outside of the oven and attached to said sliding support, and a handle on the upstanding handle support, whereby the sliding support may be slid into and out of the oven at will.

7. An oven construction for a stove comprising an oven, shelf support frames slidable in the oven, means causing the frames to move together, a shelf slidable in the frames, a door for the oven, means to open the door, and means mounted on the front of the stove and above the lower edges of the shelf support frames, and separate from the operation of the door, to move the shelf support frames.

8. An oven construction for a stove comprising an oven, shelf support frames slidable in the oven, means causing the frames to move together, a plurality of shelves slidable in the frames, a door for the oven, means to open the door, and means mounted on the front of the stove and above the lower edges of the shelf support frames, and separate from the operation of the door, to move the shelf support frames.

9. An oven construction for a stove, comprising an oven, shelf support frames slidable in the oven, means causing the frames to move together, a shelf slidable in the frames, a door for the oven, means to open the door, and a single hand operated means mounted on the front of the stove, and above the lower edges of the shelf support means, and separate from the operation of the door, to move the shelf support frames.

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