

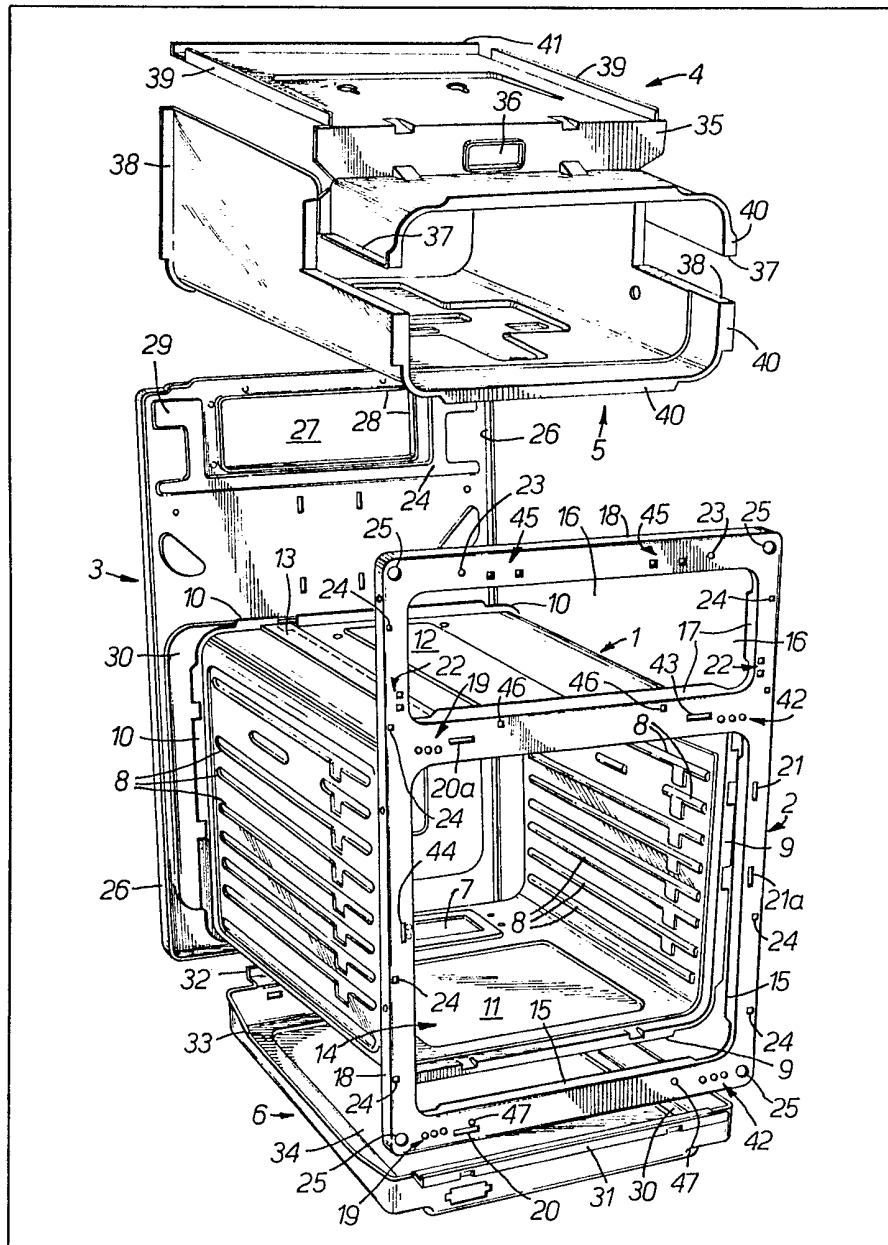
(12) UK Patent Application (19) GB (11) 2 104 645 A

- (21) Application No 8120638
- (22) Date of filing 3 Jul 1981
- (43) Application published 9 Mar 1983
- (51) INT CL³ F24C 15/08
- (52) Domestic classification F4W 20
- (56) Documents cited GB 1507310 GB 1331105 GB 0816868 GB 0742180 GB 0597424
- (58) Field of search F4W
- (71) Applicants T. I. Domestic Appliances Limited (Great Britain), Radiation House, North Circular Road, London NW10 0JP
- (72) Inventor Benjamin Frank Gostelow
- (74) Agents Abel and Imray, Northumberland House, 303—306 High Holborn, London WC1V 7LH

(54) Improvements in or relating to cookers

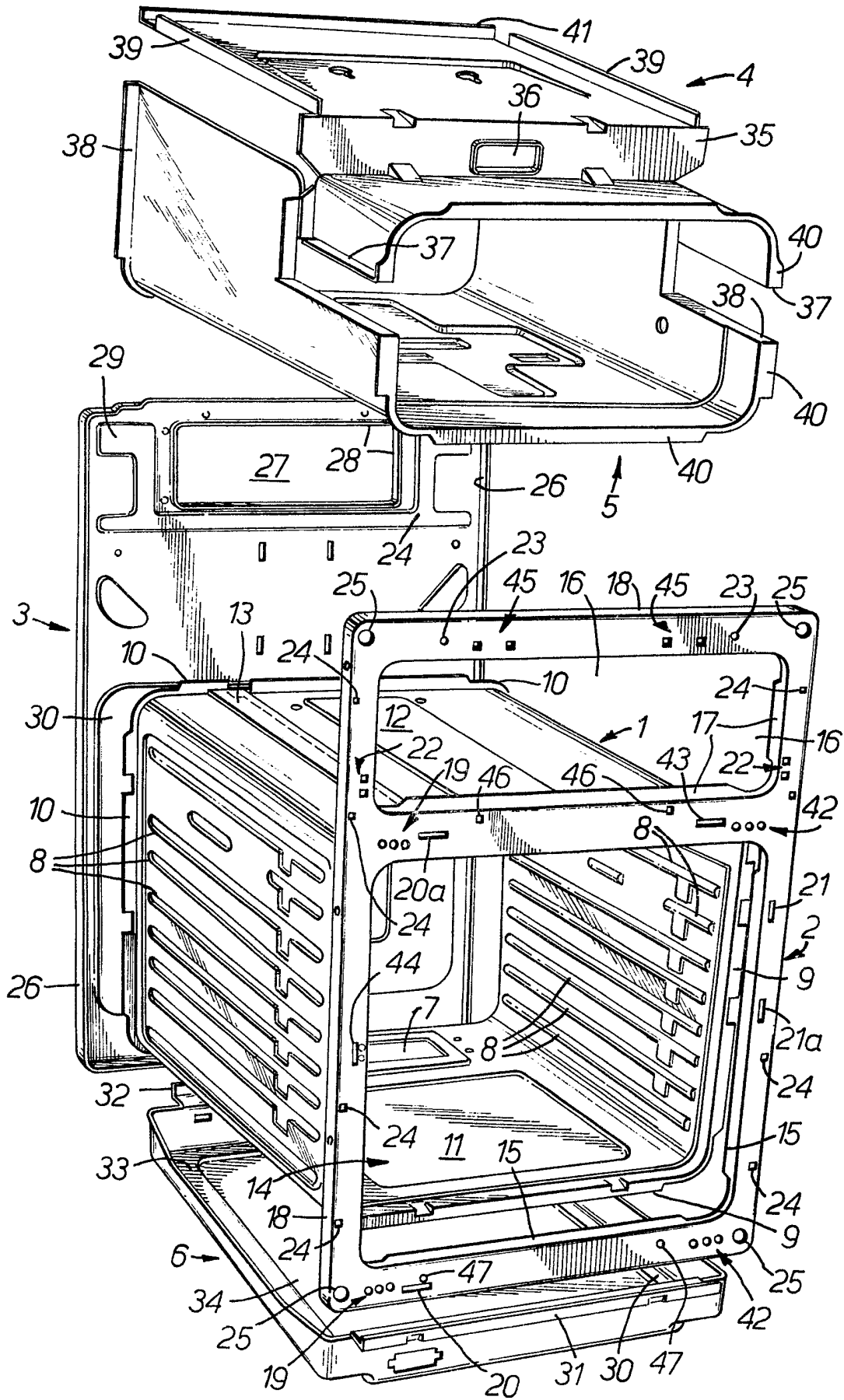
(57) A cooker having a structure including a one-piece sheet metal, open-ended oven casing (1) secured between a sheet metal front panel member (2) and a sheet metal rear panel member (3). The front panel member (2) has a first aperture (14) whose dimensions correspond with those of one of the open ends of the oven casing (1) and a second aperture

(16). The front panel member (2) can be orientated with the second aperture (16) above the first aperture (14) to provide a structure for a cooker with a waist-level grill or with the second aperture (16) below the first aperture (14) to provide a structure for an eye-level grill cooker and a cooker with a storage space beneath the oven casing. The structure is mounted upon a separate support (6) secured to the lower ends of the front and rear panel members.



GB 2 104 645 A

1/1



SPECIFICATION

Improvements in or relating to cookers

This invention relates to cookers and has particular application to the construction of the cooker.

It is an object of the present invention to provide a structure for a cooker that is of simple and economic construction.

According to the present invention, a cooker has a structure comprising a one-piece sheet metal oven casing secured between a front panel member and a rear panel member both also of sheet metal, both panel members extending upwardly and downwardly from the oven, the downward extensions being mounted on a separate support member or members.

The oven casing may be open-ended and closed at one end by the rear panel member, the front panel member having a first aperture aligned with the other open end of the oven casing.

The front panel member may have a second aperture which, in one orientation of the front panel member, is located above the oven casing. In such a case, there may be a grill chamber casing mounted between the front and rear panel members, the grill chamber casing being open at one end at least, the open end registering with the second aperture.

The grill chamber casing may be of two-part sheet metal construction, one of the parts being so contoured as to accommodate a grill and a heater therefor.

Alternatively, the front panel member may be orientated so that the second aperture is located below the first aperture and gives access to a space beneath the oven casing.

The invention also envisages a rigid structure for a cooker comprising a one-piece sheet metal oven casing secured between a sheet metal front panel member and a sheet metal rear panel member, the front panel member having a first aperture aligned to give access to the interior of the oven casing and a second aperture spaced from the first aperture, the front panel member having a plurality of further apertures disposed in groups one of which is for use when the front panel member is used in a first orientation and another of which is used when the front panel member is used in a second orientation.

A cooker including the rigid structure with the front panel member in the first orientation has a grill chamber casing mounted above the oven casing, the grill chamber being open at least at one end thereof, the open end registering with the second aperture.

A cooker including the rigid structure with the front panel member in the other orientation has a space beneath the oven casing access to which is provided by the second aperture.

By way of example only, embodiments of the invention suitable for use in the construction of domestic gas cookers will now be described in greater detail with reference to the accompanying drawing which shows one embodiment in

perspective exploded form.

The drawing shows the principal parts of the basic structure of the cooker. Those parts are a one-piece sheet metal oven casing 1, a one-piece sheet metal front panel member 2, and a one-piece sheet metal rear panel member 3.

The drawing also shows the parts 4, 5 of the housing of a grill chamber casing and a cooker support member 6 supporting the cooker structure.

The oven casing 1 is of sheet metal and is made up from a flat rectangular sheet that is punched and formed when flat to provide an aperture 7, oven shelf guides 8, and flanges 9, 10 along both longer sides of the sheet. Adjacent the aperture 7, the sheet has an area 11 that is slightly depressed with respect to the immediately adjacent parts of the sheet, there being a second similar but smaller area 12 close to one of the shorter edges of the sheet.

After formation of the features just described, the metal sheet is bent into the form shown in the drawing, the ends being overlapped slightly as at 13 and then spot welded together. In the open-ended, box-like structure thus provided, the aperture 7 and area 11 are on the floor of the box whilst the guides 8 are located in similar parallel positions on the side walls, and the area 12 and the overlap 13 are in the roof of the box.

The front panel member 2 is also made up from a flat rectangular metal sheet punched and formed to provide a first aperture 14 whose dimensions correspond with those of one of the open ends of the oven housing 1. Aperture 14 is bounded by an inturned flange 15. Panel member 2 also has a second smaller aperture 16 located, in the orientation shown in the drawing, above aperture 14. Aperture 16 is bounded by an inturned flange 17. Member 2 also has a continuous inturned flange 18 round its entire periphery.

Rear panel member 3 is also made up from a flat rectangular metal sheet and has a continuous flange 26 round its entire periphery. An aperture 27 close to the upper (as seen in the drawing) edge of the member is bounded by an inturned flange 28. A raised area 29 in the vicinity of the aperture 27 strengthens the upper part of the panel member and assists in locating other components to be described below. A further raised area 30 whose dimensions correspond with those of the open end of the oven casing 1 is located in the lower half of the panel member.

The three components just described form (when secured together) the structure of the cooker. The oven casing 1 is positioned with one open end in registration with the aperture 14 in member 2 location being assisted by the flange 15 which extends into the casing 1. The casing 1 is secured to the member 2 by spot welding along the flanges 9 and 15.

The rear panel member 3 and the oven casing are secured together in a somewhat similar fashion. The area 30 registers with the other open end of the oven casing 1 and the components are

secured together by spot welding along the flange 10.

In this manner, a rigid cooker structure is produced from the three components and on which other parts of the cooker are mounted.

The structure can be used as shown in the drawing, i.e. with the front panel member 2 orientated as shown, in which case aperture 16 forms the open end of a grill chamber in what is known as a "waist level" grill cooker.

To produce a structure suitable for what is known as an eye level grill cooker, it is necessary merely to re-orientate the front panel member 2 so that the aperture 16 lies below the aperture 14, and, with the oven casing 1 in the same orientation as previously used, the casing is secured between the re-orientated front panel member 2 and a rear panel member similar to panel member 3 but without aperture 27 and raised area 29.

Thus, by re-orientating front panel member 2, and using only one new component, i.e. a new rear panel member 3, it is possible to produce two structures suitable for two types of cookers.

With the structure constructed to provide an eye level grill type cooker, the aperture 16 forms the open end of a storage space beneath casing 1.

It is, of course, possible to use the same structure for a cooker without an eye-level grill.

Front panel member 2 is formed with a number of slots and holes in its front face by means of which other components of the cooker can be mounted upon or secured to the member.

The slots and holes are so positioned that they enable the components to be secured to the structure in positions appropriate to the orientation of the front panel member depending upon whether the structure is destined for a waist level grill cooker or an eye-level grill cooker. Thus, groups 19 of holes are provided for the attachment of hinges carrying an oven door and slot 20 gives access for the door stay as explained below. The groups 19 of holes together with the slot 20, when the front panel member 2 is orientated as shown in the drawing, are used for an oven door hinged at the left-hand side of the oven. Slot 21 provides access for a door catch for a door hinged as just described.

Groups 22 of square holes are used for the attachment of a door for a grill chamber referred to in more detail below when the front panel member 2 is orientated as shown in the drawing.

Holes 23 are used, with the front panel member 2 in the orientation shown for the attachment of a support for a gas rail by which gaseous fuel is supplied to gas burners mounted above the conventional spillage tray but not shown in the drawing.

Holes 24 are used for the attachment to the structure of side panels which are part of a free-standing cooker.

Holes 25 are suspension holes used to suspend the structure during an enamelling process which takes place after all the components have been welded together.

When used in the orientation shown in the drawing, the lower end of the structure is supported by the support member 6 pressed from sheet metal and having forwardly and rearwardly-extending ledges 31 and 32 respectively on which rest the flanges 18 and 26 on the front and rear panel members 2, 3 and to which the flanges are secured by spot welding. The floor 33 of the support member has a large central aperture 34 while other apertures in the support member give access to other components that may be located in the support member.

The grill chamber casing is made from two sheet metal parts 4, 5 contoured to provide, when secured together the floor, side walls and roof of the chamber. Part 4 which provides the roof is stepped as at 35 to accommodate a grill and burner (not shown). The step has an aperture 36 that allows connection to be made to the burner for gas supply purposes.

The parts 4, 5 have flanges 37, 38 by means of which the fronts of the parts are secured together by spot welding. Further flanges 39 on part 4 are spot welded to the rear side walls of part 5 to secure together the rears of the parts. Front flanges 40 and rear flanges 41 enable the parts to be spot welded to the front and back panel members 2, 3 respectively. The front of the grill chamber registers with the opening 16 in the front panel member 2, the flange 17 locating inside the front of the grill chamber, whilst raised area 29 on the rear panel member 3 locates inside the welded assembly 4, 5, the flanges 38 and 41 being spot-welded to part 3.

When the structure is used with the front panel member 2 in the alternative orientation described above, the aperture 16 gives access to a storage space beneath the oven, a support member which may be similar to that described above being secured between the then lower ends of the front and rear panel members.

In this orientation, a grill chamber located at eye-level may be fitted above the spillage tray. The grill chamber may be secured to a splash back extending upwardly from the upper end of the suitable modified rear panel member.

Further holes and slots in the front panel member 2 enable doors etc. to be secured to the structure in positions appropriate to the orientation now being considered. Thus, groups 42 of holes permit oven door mounting hinges to be secured to the support structure for a left-handed hinged door while slot 43 provides access for a door stay for the door when the front panel member 2 is orientated to provide a structure suitable for an eye-level grill cooker. Slot 44 is provided for a door catch for the door hinged as just described.

With the same orientation of the front panel member 2, the groups 19 of holes together with a slot 20a serve for a door hinged at the right-hand side of the oven. Slot 21a provides access for the door catch of a door hinged as just described.

With the front panel member 2 in the orientation now being considered, the aperture 16

provides entry to storage space beneath the oven. Groups 45 of square holes receive hinges for a door to close aperture 16 whilst mounted in holes 46 are door fasteners which may comprise

5 combined catches and door buffers of a plastics material that cooperate with latch members carried by the door.

10 Finally, holes 47 are provided for a purpose similar to that of holes 23 when the front panel member 2 is in the orientation now being considered.

15 A drawer may be accommodated in the storage space beneath the oven casing, the front wall of the drawer closing the aperture 16 when the drawer is shut.

It will be appreciated that the cooker structures described above are of simple and cheap construction.

20 The structures with the appropriate rear panel member can be used for cookers with a waist level grill, cookers with a storage chamber beneath the oven, and cookers with both an eye-level grill and a storage chamber beneath the oven.

25 Cookers with the waist level grill or with the storage chamber beneath the oven but without the eye-level grill may be either free-standing or "built-in". In the latter case, the structure is supported upon two channel-shaped base members that are disposed at each side of the structure in a front-to-back orientation.

30 Additionally, by using a front panel with appropriately positioned holes, a cooker with a dro-down oven door can be provided.

CLAIMS

35 1. A cooker having a structure comprising a one-piece sheet metal oven casing secured between a front panel member and a rear panel member both also of sheet metal, both panel members extending upwardly and downwardly

40 from the oven, the downward extensions being mounted on a separate cooker support member or members.

45 2. A cooker as claimed in claim 1 in which the oven casing is open-ended and is closed at one end by the rear panel member, the front panel member having a first aperture aligned with the other open end of the oven casing.

3. A cooker as claimed in claim 2 in which the front panel member has a second aperture.

50 4. A cooker as claimed in claim 3 in which the front panel member is so orientated that the second aperture is positioned above the first

aperture, and in which a grill chamber casing is secured between the front and back panel members, the grill chamber casing being open at one end, at least, the open end registering with the second aperture.

55 5. A cooker as claimed in claim 4 in which the grill chamber casing is of two-part sheet metal construction, one of the parts being contoured to accommodate a grill and a heater therefor.

60 6. A cooker as claimed in claim 3 in which the front panel member is so orientated that the second aperture lies below the first aperture and gives access to a space beneath the oven casing.

65 7. A cooker substantially as herein described with reference to and as illustrated by the accompanying drawing.

70 8. A rigid structure for a cooker comprising a one-piece sheet metal oven casing secured between a sheet metal front panel member and a sheet metal rear panel member, the front panel member having a first aperture aligned to give access to the interior of the oven casing and a second aperture spaced from the first aperture, the front panel member having a plurality of further apertures disposed in groups one of which is for use when the front panel member is used in a first orientation and another of which is used

75 80 when the front panel member is used in a second orientation.

9. A cooker as claimed in claim 4 and comprising a structure as claimed in claim 8 in which the front panel member is in the first orientation.

85 10. A cooker as claimed in claim 6 and comprising a structure as claimed in claim 8 in which the front panel member is in the other orientation.

90 11. A structure as claimed in claim 8 in which the front panel member has flanges round part at least of the first aperture, the flanges locating the oven casing with respect to the front panel member and providing means by means of which

95 the casing is secured to the front panel member.

100 12. A structure as claimed in claim 8 or 11 in which the rear panel member has a raised area that registers with the oven casing to locate the latter with respect to the rear panel member.

13. A structure as claimed in claim 8, 11 or 12 in which the oven casing has, at each end flanges by means of which the casing is secured to the front and rear panel members.

105 14. A cooker including a rigid support structure as claimed in claim 8, 11, 12 or 13.