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(72) Inventor: **Gilroy, William**
Warwickshire CV31 2AD (GB)

(74) Representative: **Tranter, Andrew David**
Barker Brettell LLP
138 Hagley Road
Esgbaston
Birmingham
B16 9PW (GB)

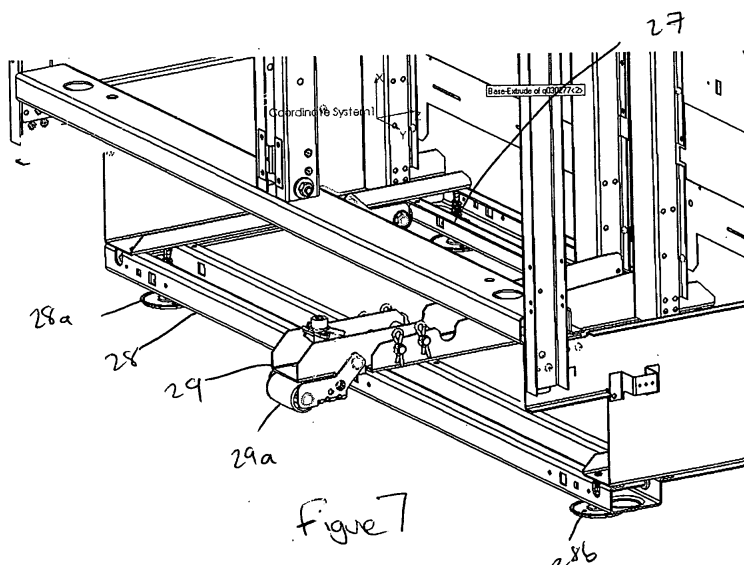
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(71) Applicant: **Aga Consumer Products Limited**
Shirley
Solihull,
B90 4LH (GB)

(54) **Built in type oven**

(57) A built-in type oven comprises a main body housing at least one oven compartment, a rear support means located towards the rear of the body and extending downwards from the body, a front support means located towards but set back from the front of the body and also extending downwards from the body, an additional support means and a recess towards the front of the oven and below the main body for accommodating a section of a continuous base plinth. The main body is supported on a floor upon the additional support means and rear support means but not the front support means

when in an installation position and upon the rear and front support means but not the additional support means when in an installed position and further in which the additional support means is movable between a first installation position and a second installed position, in which in the first position the front support means is located at least partially in front of the front support means in the plinth recess to prevent the body pivoting forward about the front support means, and in the second position it is located behind the front support means and clear of the recess to allow installation of a fitted plinth.



Description

[0001] This invention relates to improvements in built-in type ovens especially, but not exclusively, for use in fitted kitchens.

[0002] Modern fashions in kitchen design have led to an increase in the popularity of built-in kitchen furniture. These provide a sleek, easy clean look to a kitchen. To complement this look, it is well known to provide built-in ovens. This is shown in Figure 1 of the accompanying drawings. By this we mean any oven 10 which is fitted beneath a continuous work surface 12 and next to another built appliance or, more often, a fitted base cabinet 14, 16. To complete the integrated look of the kitchen, a continuous base plinth 18 is often fitted under the front edge of both the oven and the cabinet.

[0003] To date, all built in ovens have been produced with a housing having an external dimension slightly smaller than a standard base cabinet. This is typically 60cm wide and 60cm deep by 60cm high. These dimensions allow the oven to be slotted into an open fronted base cabinet, so that the cabinet supports the oven at the correct height to match a run of base units. The plinth runs underneath the cabinets, set back a small distance from the front.

[0004] An alternative style is the free standing oven. These are fitted between units but not covered by a continuous work surface. They typically include a grill on the top to give a complete cooker, and are freestanding with adjustable legs that contact the floor. They give a very different, more traditional look. Because of the need to provide stable front and rear legs, they cannot be matched to a continuous plinth and are intended to look "unfitted".

[0005] According to a first aspect the invention provides a built-in type oven comprising:

- a main body housing at least one oven compartment;
- a rear support means located towards the rear of the body and extending downwards from the body; and
- a front support means located towards but set back from the front of the body and also extending downwards from the body;
- an additional support means; and
- a recess towards the front of the oven and below the main body for accommodating a section of a continuous base plinth;

in which the main body is supported on a floor upon the additional support means and rear support means but not the front support means when in an installation position and upon the rear and front support means but not the additional support means when in an installed position;

and further in which the additional support means is movable between a first installation position and a second installed position, in which in the first position the front support means is located at least partially in front of the

front support means in the plinth recess to prevent the body pivoting forward about the front support means, and in the second position it is located behind the front support means and clear of the recess to allow installation of a fitted plinth.

[0006] The invention therefore provides a floor standing built-in type oven with an additional support that helps give stability during installation, this extra support enabling the front support means to be set back further than would otherwise perhaps be ideal for stability during installation. This is advantageous in that it enables the front feet to be set back beyond the typical position of a plinth (sometimes referred to as a kickboard) in a fitted kitchen, allowing a recess to be provided at the base for accommodating a section of kitchen plinth.

[0007] The additional support means may comprise at least one roller or foot. It may be attached to the body or the front or rear support means through an arm. The arm may be pivotally attached to the base to enable the roller to pivot between the first and second position.

[0008] The rear support means may comprise one or more rollers. The roller may have an axis of rotation which extends transverse to the oven body, i.e. from side to side, to enable the body to be rolled backwards on the roller(s) during installation.

[0009] The front support means may comprise one or more height adjustable feet. In the installation position these feet may be located above a plane containing the additional support means and the rear support means. On a level floor this will mean the feet are clear of the floor.

[0010] The front and rear support means may be secured to a frame located below the main body of the oven.

[0011] The additional support means may be removable, but it is preferred that it can be adjusted between first and second positions without removal. It may be removed from the oven in the second, installed, position.

[0012] The main body may have a generally cuboid form, and most preferably has a depth of substantially 60cm. This allows it to fit underneath a worksurface in a fitted kitchen.

[0013] The body, or at least its front, may have a height of substantially 60cm. This allows it to match a traditional built in oven in appearance once installed and makes it compatible with adjacent cabinets, enabling a continuous run of plinth of one height to pass under the oven body and the adjacent cabinet.

[0014] The body may have a width of substantially 120cm, and may contain two oven cavities side by side. This enables it to occupy the space of two standard 60cm base units. Because it is floor standing yet is installed under a work surface as built-in oven it is able to bear its own weight and that of any work surface above it. This permits a more sturdy construction to be used than could otherwise be supported by a standard kitchen cabinet. It also makes it easier to install as it need not be lifted off the floor when installing.

[0015] The front support means is preferably located at least 10 cm behind the front, and no other part of the

oven should preferably lie ahead of this unless at least 10cm or perhaps 20cm above the ground. This allows a kitchen unit plinth to be run across the front of the cooker below the main body in this unoccupied region. When this is done, the cooker has the appearance of a conventional built in oven, but with all the advantages of a floor mounted cooker.

[0016] The rear support means and front support means preferably extend down from the main body so as to hold the front of the main body between 10 and 20cm from the ground, and preferably substantially 15cm above. This matches the typical depth of a kitchen plinth. This distance is measured from the bottom of the front panel of the main body, which is the part that is visible when installed.

[0017] The oven cavity may be heated by a remote heat source located elsewhere in the body, or by a heat source comprising one or more elements located in the cavity. The heat source may comprise an electric heating element or a burner that burns gas or oil.

[0018] The oven may include a drawer and the main body may include a space for the drawer at the bottom, below the or each oven cavity. This may be provided with runners on each side which cooperate with runners on the drawer.

[0019] The base of the main body may be at least partially cut-away such that, with the drawer removed, access to the additional support means may be achieved. Where the additional support means comprises a foot or roller or the like attached to a pivoting arm, the arm may sweep through an arc that passes through the space provided for the drawer. This feature enables a larger, more robust pivot arm for the feet or roller to be provided.

[0020] According to a second aspect there is provided in combination, a cooker according to the first aspect, a work surface that extends above the top of the cooker, and a plinth extending across the front of the base of the cooker, in which the cooker is adapted to support the underside of the work surface and in which the plinth can be set back from the front of the oven by up to about 10cm.

[0021] The combination may further include at least one item of kitchen furniture adjacent to the cooker and the oven may be fixed to the item.

[0022] By item of furniture it will be understood that we mean a base cabinet which may have an open or closed front and may include one or more drawers. By work surface we may mean a section of work surface of wood, marble, granite, laminated chipboard or the like.

[0023] Between the cooker and the item of furniture there may be a heat resistant trim strip. The trim strip may be at least partially, and preferably wholly metal. It may be aluminium.

[0024] According to a third aspect the invention provides a heat proof trim strip for use in protecting the edges of drawers or door fronts of a kitchen base cabinet from heat emitted by an adjacent oven, the trim strip comprising a strip of metal having a length of substantially 70cm, the strip comprising a first heat deflecting section running

the length of the strip and having an L-shaped or U-shaped cross section, and a second fixing section that extends outward from the first section for securing the strip to the side of a cabinet or adjacent oven.

[0025] The fixing section may extend at right angles from one end of the L-shaped cross section. Where a U-section is provided, it may extend from a corner of the U at right angles to the base of the U in the opposite direction to the ends of the U shaped section.

[0026] The fixing section may extend along the length of the trim strip, or may be discontinuous. It may be provided with one or more holes for receiving fastening screws or bolts.

[0027] When installed, the fixing section can be placed in the gap between a cabinet side and an adjacent built-in oven or even a free standing oven. The heat deflecting section will be installed over the front edge of the cabinet side.

[0028] The L-shaped section may be substantially 2cm by 2cm in depth and width respectively

[0029] The trim strip may be aluminium or may be of steel. It may have a brushed finish. It may be coated with a lacquer or paint finish.

[0030] The trim strip is especially suitable to use with an oven according to the first aspect of the invention.

[0031] There will now be described, by way of example only, one embodiment of the present invention with reference to and as illustrated in the accompanying drawings of which :

Figure 1 is a front view of a typical built-in oven installed in a fitted kitchen;

Figure 2 is a front view of a built-in oven within the scope of the present invention;

Figure 3 is a side view of a built-in oven within the scope of the present invention;

Figure 4 shows the oven of Figures 1 and 2 fitted in a kitchen; and

Figure 5 is a detail view of a part of the oven and a heat deflecting trim strip fixed between the oven side and an adjacent cabinet.

Figure 6 is a more detailed view of the trim strip; and

Figure 7 is view of the oven showing the arm of the additional support in its forward extended position.

[0032] A built-in oven 20 is shown in front view in Figure 2 and as a section about the line C-C in Figure 3 of the accompanying drawings. It comprises a main body 22 which has a generally cuboid shape. The body has a height and depth of 60cm and a width of 120cm. The body therefore matches two full size base cabinets of a fitted kitchen. Other widths are, or course possible, e.g.

60 and 90 cm wide.

[0033] The main body 22 is of pressed steel construction and has a front with two square openings 24, 26 side by side, a back and two side walls and a part open top and bottom. Within the body are provided two oven cavities or chambers each defined by an open fronted insulated box. The boxes are aligned side by side with their open fronts sealed to the openings in the main body. Also located with the main body and at the rear of each compartment is a heating element and a fan. The heating element heats air that is drawn by the fan through ducts connected to the outside of the main body. The heated air is then blown into a respective cavity by the fan. A control circuit is provided for each cavity, which controls how much current is fed to each heating element. A thermostat in each cavity feeds temperature information to the controller to form a closed loop control circuit.

[0034] Underneath the main body 22 are three support assemblies 27, 28, 29 carried by a frame. A rear assembly 27 is provided at the rear of the body and includes two spaced rollers supported on a cross beam of the frame. Towards the front is a further crossbeam part of the frame which forms a part of a front support assembly 28. Instead of rollers, two spaced apart feet 28a, 28b extend downward from the front cross beam. They are connected to the cross beams by threaded rods which engage complementary threaded holes in the cross beam. Rotating the feet causes them to move up or down relative to the cross beam.

[0035] Between the front and rear cross beams is an additional support assembly 29. This comprises an arm that pivots about an axle located by the frame midway between the front and rear crossbeams. On the end of the axle is a roller 29a.

[0036] To install the oven 20, it is first moved roughly into position by sliding into the recess under a work surface between two base cabinets. This is performed whilst the front feet are fully up and the additional support is in its extend forward position as shown in Figure 7. In this position the arm is bolted to the frame so it cannot pivot about its axle. The weight of the oven is then carried on the rear rollers and the roller of the additional support 29.

[0037] Once pushed fully back in the opening, the height of the oven is adjusted by lowering the front feet 28a, 28b until they contact the ground and start to take the oven's weight. Then feet are then adjusted until the top of the oven contacts the underside of the work surface evenly across the width of the oven.

[0038] Finally, the additional support means 29 is pivoted back into the space between the front and rear cross members. This is shown in Figure 3 of the accompanying drawings. A finishing plinth can then be added across the front of the oven and the adjacent cabinets to give a sleek built-in finish to the oven. This can be seen in Figure 4 of the accompanying drawings.

[0039] In a refinement shown in Figure 5, an optional heat resistant trim strip 50 may be fitted between the side of the oven 20 and an adjacent unit 14. One strip may

be fitted at each side of the oven. The strip 50 is screwed to either the side of the oven or to the side of the adjacent unit. It comprises an elongate aluminium strip having a constant substantially L shaped cross section along its length. This is shown in Figure 6. The strip leaves room for the oven door to swing open and covers the edge of any door or drawer of the adjacent unit. This helps prevent excess heat reaching the door or drawer edge from an open oven. It also allows the front of the oven body (to which the oven door is sealed when closed) to lie slightly behind the drawer or door fronts, i.e. flush with the frame of the adjacent cabinet.

15 Claims

1. A built-in type oven comprising:

- a main body housing at least one oven compartment;
- a rear support means located towards the rear of the body and extending downwards from the body; and
- a front support means located towards but set back from the front of the body and also extending downwards from the body;
- an additional support means; and
- a recess towards the front of the oven and below the main body for accommodating a section of a continuous base plinth;

in which the main body is supported on a floor upon the additional support means and rear support means but not the front support means when in an installation position and upon the rear and front support means but not the additional support means when in an installed position; and further in which the additional support means is movable between a first installation position and a second installed position, in which in the first position the front support means is located at least partially in front of the front support means in the plinth recess to prevent the body pivoting forward about the front support means, and in the second position it is located behind the front support means and clear of the recess to allow installation of a fitted plinth.

2. A built-in type oven according to claim 1 in which the additional support means comprises at least one roller or foot attached to the body or the front or rear support means through an arm.
3. A built-in type oven according to claim 2 in which the arm is pivotally attached to the base to enable the roller to pivot between the first and second position.
4. A built-in type oven according to any preceding claim in which the rear support means comprises one or

more rollers.

5. A built-in type oven according to any preceding claim in which the front support means comprise one or more height adjustable feet and in which in the installation position these feet are located above a plane containing the additional support means and the rear support means. 5

6. A built-in type oven according to any preceding claim in which the front support means is located at least 10 cm behind the front of the oven, with no other part of the oven being forward of this unless at least 10cm above the ground. 10
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7. A built-in type oven according to any preceding claim which includes a drawer at the bottom, below the or each oven cavity and in which the base of the main body is at least partially cut-away such that, with the drawer removed, access to the additional support means can be achieved. 20

8. A cooker according to any preceding claim combined with a work surface that extends above the top of the cooker, and a plinth extending across the front of the base of the cooker, in which the cooker is adapted to support the underside of the work surface and in which the plinth can be set back from the front of the oven by up to about 10cm. 25
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9. The combination of claim 8 in which the cooker is located adjacent an item of furniture and in which a heat resistant trim strip is provided between the cooker and the item of furniture. 35

10. A heat proof trim strip for use in protecting the edges of drawers or door fronts of a kitchen base cabinet from heat emitted by an adjacent oven, the trim strip comprising a strip of metal having a length of substantially 70cm, the strip comprising a first heat deflecting section running the length of the strip and having an L-shaped or U-shaped cross section, and a second fixing section that extends outward from the first section for securing the strip to the side of a cabinet or adjacent oven. 40
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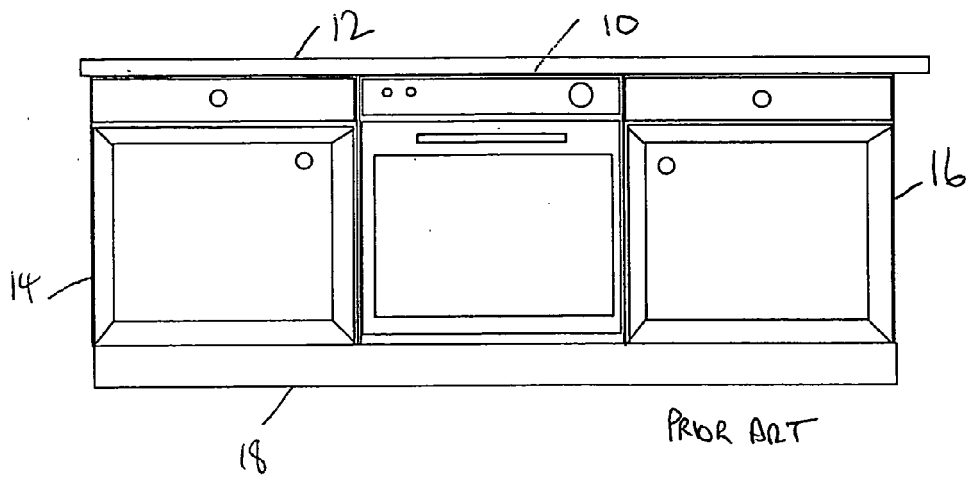


Figure 1

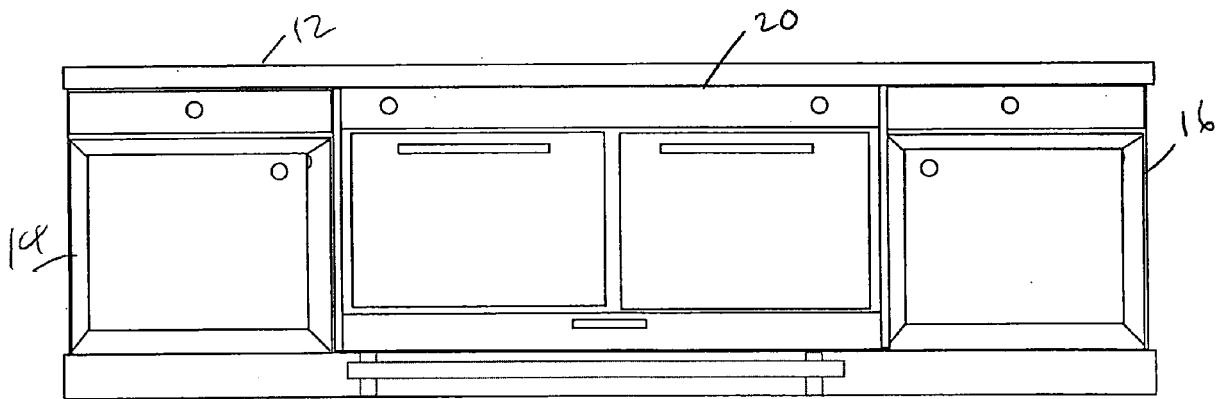


Figure 4

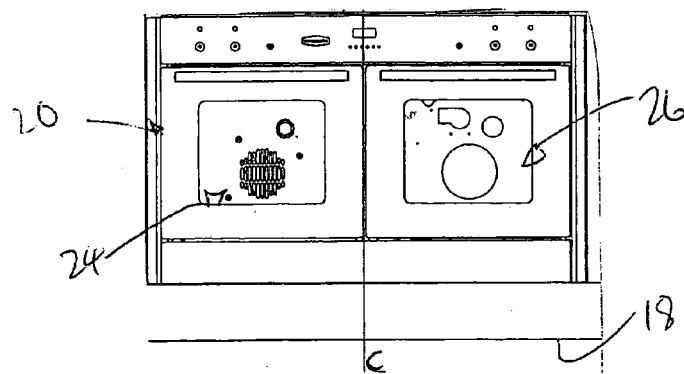


Figure 2

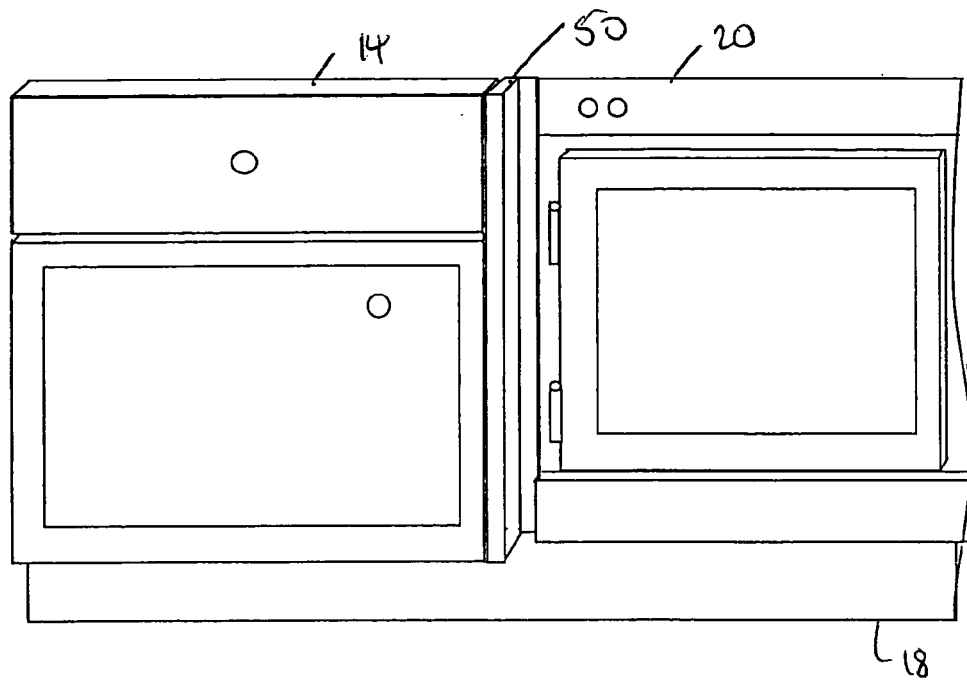


Figure 5

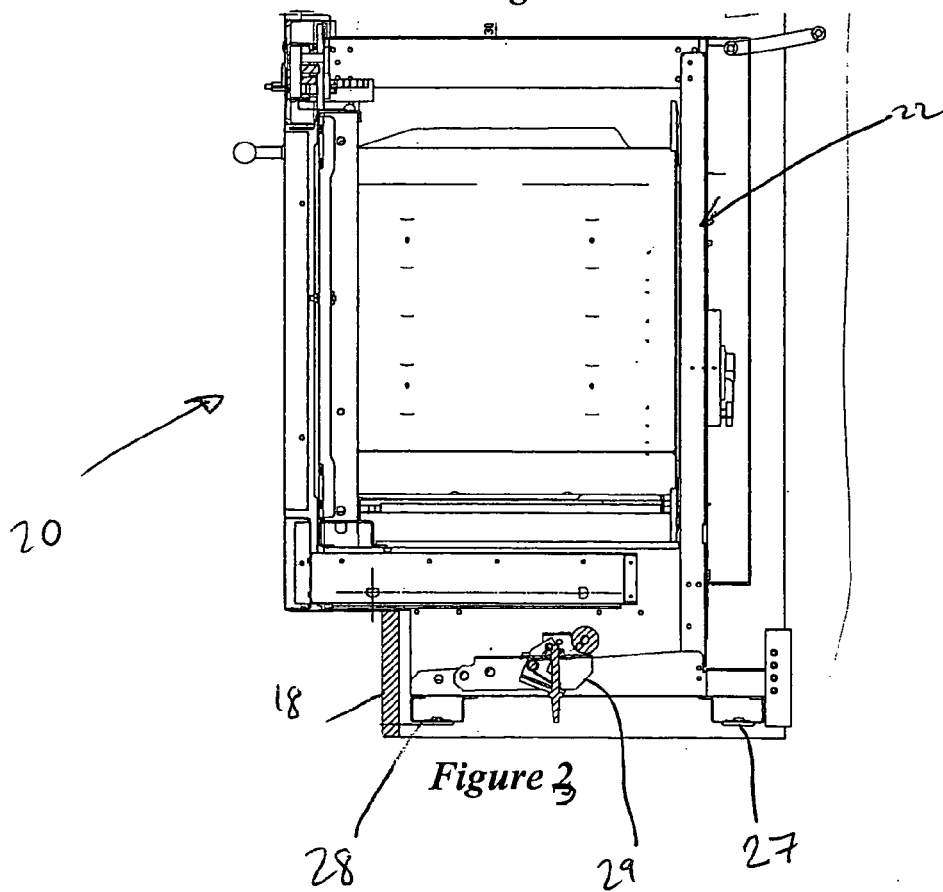


Figure 2

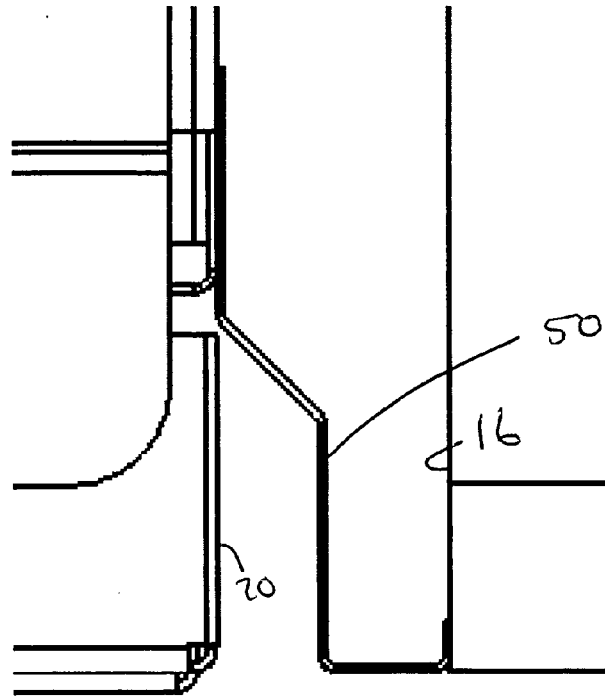


Figure 6

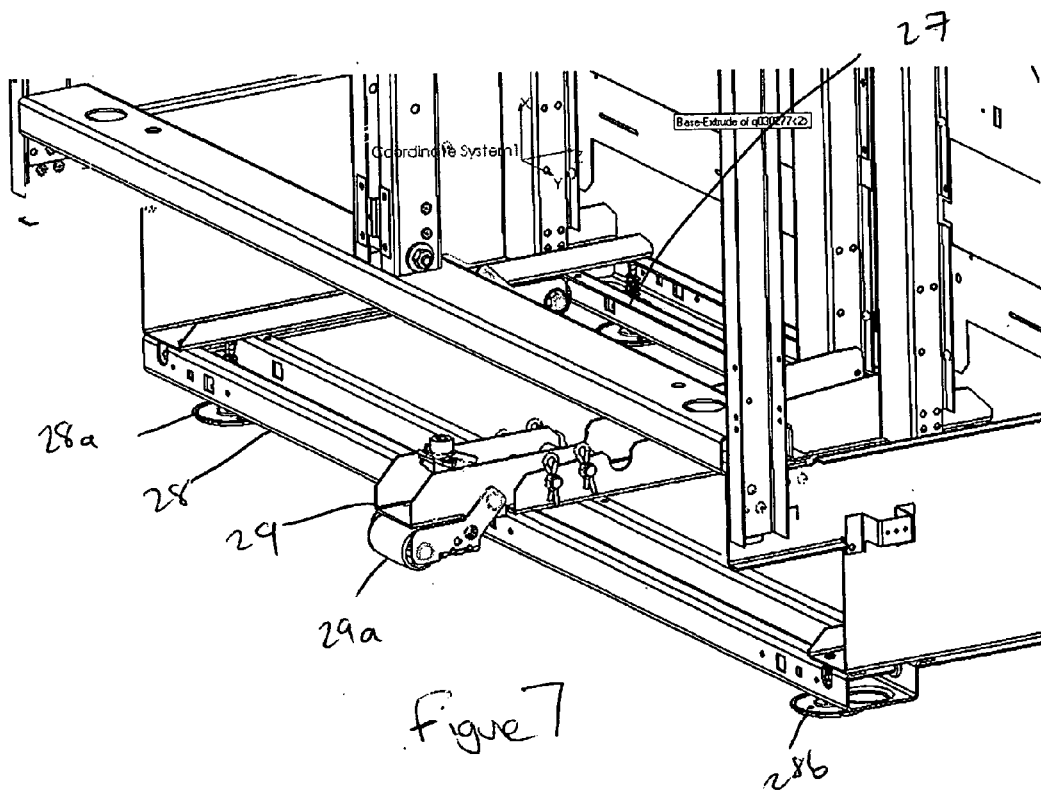


Figure 7