

[54] ADJUSTABLE APPLIANCE SUPPORT
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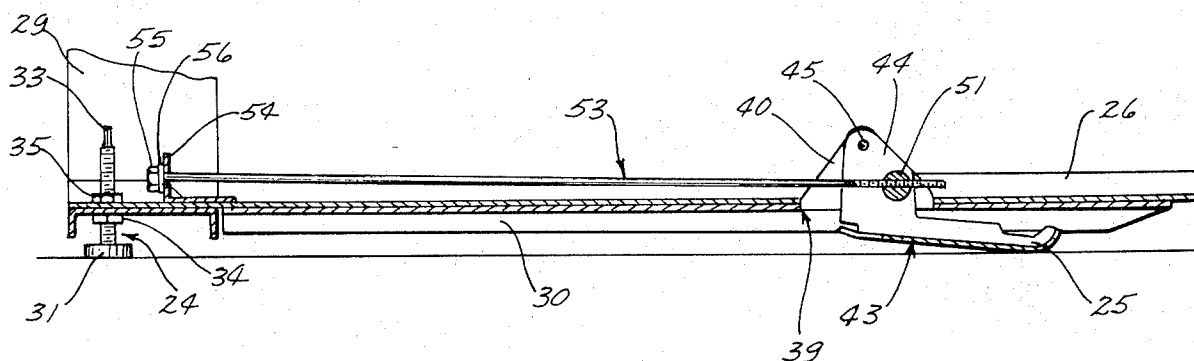
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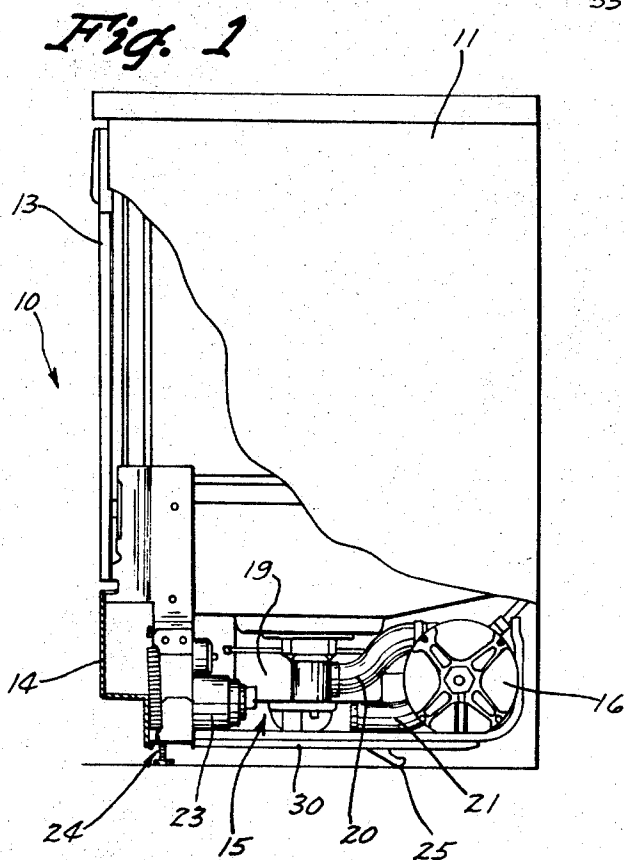
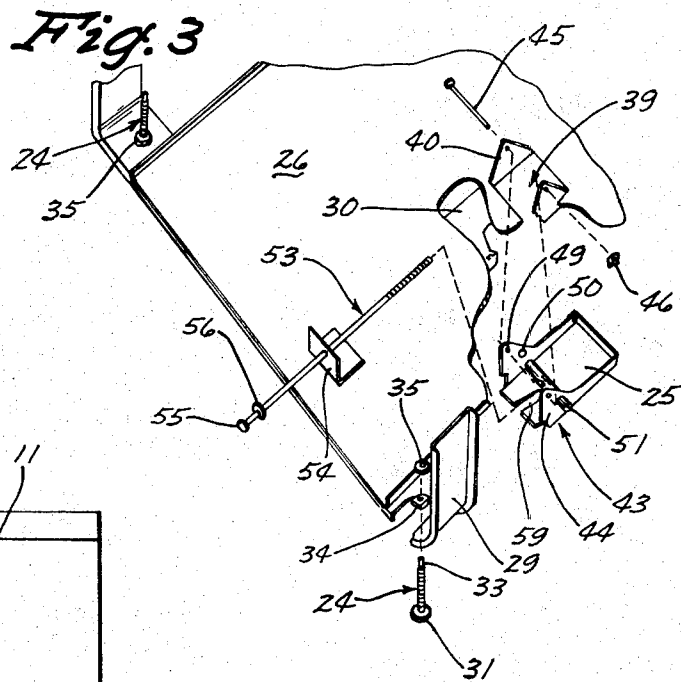
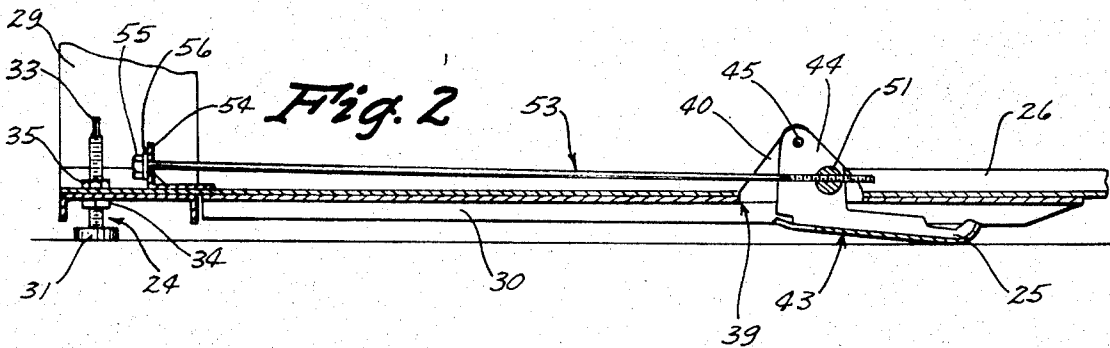
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[57] **ABSTRACT**

An adjustable three-point support for an appliance, such as a built-in dishwasher, includes a pair of threaded legs adjacent the front of the appliance and an adjustable member disposed toward the rear thereof but adjustable from the front of the appliance for achieving a selective positioning and levelling of the appliance from the front of the appliance.

8 Claims, 3 Drawing Figures





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ADJUSTABLE APPLIANCE SUPPORT

SUMMARY OF THE INVENTION

This invention relates to supports for appliances and more particularly to a support system adjustable entirely from the front for achieving a levelling of the appliance.

Built-in appliances on the market have an adjustable bolt or leg at each of the four corners of the appliance and levelling during installation necessitates reaching into each corner in order to make proper adjustment. Accessibility of the adjustment legs from any one particular side of the appliance, however, is minimal at best.

It is therefore an object of the instant invention to provide an improved adjustable support arrangement for an appliance.

It is a further object of the instant invention to provide a three-point support system selectively adjustable from the front of the appliance to achieve a desired condition of levelling of the appliance.

It is a further object of the instant invention to provide in an appliance support system a pair of adjustable legs at the front of the appliance and a rearwardly disposed pivotal member remotely adjustable from the front of the appliance.

It is still a further object of the instant invention to provide in an appliance support arrangement a pair of threaded legs depending from a base frame at the front corners thereof and a bell-crank operated member extendable and retractable from the base member at a rear portion thereof responsive to a manual maneuver at the front of the appliance.

These objects are achieved in an appliance supporting arrangement including selectively adjustable leg means at the front of the appliance and a rearwardly disposed member adjustably depending from a base structure for engagement with a supporting surface as a third support point. The depending member is adjustable at the front of the appliance for movement relative to the base structure to effectively change the relative height of the rear of the appliance whereby a desired condition of height and levelling may be achieved.

Operation of the device and further objects and advantages thereof will become evident as the description proceeds and from an examination of the accompanying page of drawings.

DESCRIPTION OF THE DRAWINGS

The drawings illustrate a preferred embodiment of the invention with similar numerals referring to similar parts throughout the several views wherein:

FIG. 1 is an overall view of a dishwashing appliance embodying the instant invention;

FIG. 2 is a fragmentary sectional view of the lower portion of the dishwashing appliance showing the instant invention in greater detail; and

FIG. 3 is an exploded perspective view of a portion of the dishwashing appliance embodying the adjustable supporting system of the instant invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1 there is shown a dishwashing appliance 10 having a built-in relationship to a cabinet structure 11 so that upon installation as shown the dishwasher 10 is inaccessible at the sides and rear. The

dishwasher 10 includes a hinged door 13 to provide access into the washing chamber and a removable service access panel 14 on the front of the dishwasher below the hinged door 13 to provide access into the lower compartment 15.

The lower compartment 15 accommodates a plurality of components including a motor-driven pump 16, a sump 19, fluid hoses 20 and 21, timer 23, and numerous other operational and control components. The various components are arranged within the lower compartment 15 for assembly and operational efficiency leaving relatively little open space.

Depending downwardly and engaging the floor at the front of the appliance is a pair of adjustable legs 24 which are both accessible from the front of the machine upon removal of the access panel 14. If similar legs were disposed at the rear of the machine they would be inaccessible or at least not conveniently accessible for adjustment to vary the elevation and attitude of the appliance. Instead, a depending foot 25, shown in FIG. 1, but more clearly shown in FIGS. 2 and 3, engages the floor at a position spaced rearwardly from the adjustable feet to provide a three-point support as will be more fully explained.

Referring to FIGS. 2 and 3 there is shown a fragmentary sectional view and an exploded perspective view with the majority of the dishwasher components removed for clarity of structural and operational description of the instant invention. These two views show a base structure including a flanged substantially horizontal base member 26 to which is welded a transversely extending front reinforcing channel 29 and a rearwardly extending reinforcing channel 30.

The pair of adjustable front legs 24 are in the form of threaded bolt members depending from the reinforcing channel 29 at the corners. The front legs 24 include a pad or foot 31 engageable with the supporting floor at the lower end and a hexagonal portion 33 extending through the base structure at the upper end. A nut 34 is welded to the underside of the front reinforcing channel 29 for threadingly receiving the leg 24 and a separate hexagonal nut 35 may be tightened against the base structure to lock the leg in a desired position.

Spaced rearwardly from the front of the machine is an opening 39 in the base structure flanked on two sides by upwardly extending flanges 40. A shoe member 43 includes side flanges 44 extending upwardly into the opening 39 and mounted on the pair of flanges 40 by a headed pivot pin 45 extending through the pivot holes in flanges 40 and through pivot holes 49 in flanges 44. A push-on clip 46 retains the pivot pin 45 in place. The shoe member 43 further includes a rearwardly and downwardly extendable foot 25 engageable with the supporting floor surface and movable relative to the base member 26 as shoe member 43 pivots to alter the elevation of the rear of the machine. In addition to the small pivot holes 49 for receiving the pivot pin 45, the shoe member 43 further includes a pair of relatively larger holes 50 in the side flanges 44 for receiving an elongated transversely extending bar 51 having a generally centrally located threaded opening.

An elongated bolt 53 extends from the front of the machine to the shoe member 43 for engagement with the threaded opening of the transversely extending bar nut 51. The front end of the elongated bolt 53 is supported by a bracket 54 welded to the base member 26 and includes a hex head 55 spaced from the bracket 54

by a washer 56. As the bolt 53 is threaded into the bar nut 51, the shoe member 43 will pivot clockwise about the pivot pin 45 so that the rearwardly disposed foot 25 becomes more downwardly extending to raise the rear of the appliance. A recess slot 59 is provided in the front portion of the shoe member 43 to accommodate the elongated bolt 53 in positions of extreme extension of the foot 25 relative to the base structure.

The shoe member 43 in the instant embodiment is located toward the rear of the appliance and is offset from the center between the two sides in order to effectively position the shoe member 43 below the center of gravity of the rear of the appliance to insure smooth operation and to avoid potential tipping of the appliance.

The specific embodiment of the instant invention shown in the drawings includes a bell-crank arrangement for achieving movement of the rearwardly disposed shoe member 43. In an alternate embodiment, however, the movable shoe member could be operated by a screw jack or scissors jack arrangement to achieve remote controlled movement for raising and lowering the rear of the appliance.

With the supporting system assembled to the base structure as shown in FIG. 2 it is clear that the instant invention provides a unique and convenient system for effecting a desired positioning of the dishwashing appliance. Specifically, the levelling procedure is as follows: With the access panel 14 removed and the lock nuts 35 loose, the front legs 24 may be turned by the upper hex portion 33 to raise or lower the feet 31 relative to the base structure to achieve a side-to-side levelled condition of the front of the appliance 10 at the desired elevation. The lock nuts 35 are tightened down on the threaded bolt to securely maintain the front legs 24 in the desired position. The bolt head 55 of the rearwardly extending elongated bolt 53 may then be turned to extend or retract the pivoted shoe member 43 to obtain a front-to-back levelled condition of the appliance. The mechanism for extending or retracting the pivoted shoe member 43 is basically operable as a bell crank. In this embodiment, if the bolt 53 is turned in the clockwise direction the foot 25 pivots downwardly to raise the rear of the machine. Likewise, if the bolt 53 is turned in a counterclockwise direction the foot 25 is retracted toward the base structure and the rear of the machine is lowered.

It is therefore seen that the instant invention provides a system easily adjustable from the front of the machine, without necessitating the reaching into each of the corners, to obtain a desired elevation and attitude of the appliance during installation.

In the drawings and specification, there has been set forth a preferred embodiment of the invention and, although specific terms are employed, these are used in a generic and descriptive sense only and not for purposes of limitation. Changes in form and the proportion of parts as well as the substitution of equivalents are contemplated as circumstances may suggest or render expedient without departing from the spirit or scope of this invention as defined in the following claims.

I claim:

1. An adjustable support system for an appliance having an access into a lower compartment, the combination comprising: a base structure for supporting said appliance and including one portion adjacent said access; leg means depending from said base structure adjacent said one portion for engaging a supporting sur-

face; adjustable means spaced from said leg means and including a member supported by and depending from said base structure for engagement with said supporting surface; and means accessible from said access including an elongated member supported by said base structure at and extending from a location adjacent said access to said adjustable means and having a threaded connection with said depending member and rotatably movable relative to said base structure for remotely operating said adjustable means to vary the position of said depending member relative to said base structure to effect a change in the posture of said appliance.

2. An adjustable support system for an appliance as defined in claim 1 wherein said leg means includes a pair of spaced-apart legs adjacent the front of said appliance and wherein said adjustable means is spaced rearwardly from a position between said pair of legs to provide a three-point support for said appliance.

3. An adjustable support system for an appliance as defined in claim 2 wherein said pair of legs are threaded into said base structure for individual adjustment relative thereto and wherein said last-named operating means is cooperable with said adjustable means for operation as a bell-crank mechanism to extend and retract said depending member and thereby effect said change in posture of said appliance.

4. An adjustable support system for an appliance, the combination comprising: a base structure for supporting said appliance and including one portion adjacent the front of said appliance; leg means depending from said base structure adjacent said front portion for engaging a supporting surface; adjustable means spaced rearwardly from said leg means and including a member pivotally supported by and depending from said base structure for engagement with said supporting surface; and operating means accessible at the front of said appliance and including an elongated member supported by said base structure at a location adjacent the front of said appliance and extending rearwardly to said adjustable means and having a threaded connection with said depending member for moving said depending member relative to said base structure to effect a change in posture of said appliance.

5. An adjustable support system for an appliance, the combination comprising: a base structure for supporting said appliance and including one portion adjacent the front of said appliance; a pair of leg members depending from said base structure adjacent said front portion for engaging a supporting surface; a shoe member pivotally mounted on a pivot pin supported by said base structure at a position spaced rearwardly from said leg members and depending from said base structure for engagement with said supporting surface; and operating means including elongated bolt means extending rearwardly from the front of said appliance to a threaded connection with said shoe member and operable for selectively pivoting said pivotally mounted shoe member relative to said base structure responsive to turning of said bolt means to effect a change in elevation of the rear of said appliance.

6. An adjustable support system for an appliance as defined in claim 6 wherein said elongated bolt means has a threaded connection with said pivotally mounted shoe member at a location spaced from said pivot pin for operating said pivotally mounted shoe member as a bell crank to raise and lower the rear of said appliance.

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7. An adjustable support system for an appliance, the combination comprising: a base structure for supporting said appliance and including one portion adjacent the front of said appliance; a pair of spaced apart leg members depending from said base structure adjacent the front portion thereof for engaging a supporting surface and having a threaded connection with said base structure for adjustment relative thereto; a shoe member spaced rearwardly from said leg members and including a foot portion depending from said base structure for engagement with said supporting surface to provide a three-point support for said appliance; a pivot pin supported by said base structure for pivotally mounting said shoe member on said base structure; and elongated bolt means extending rearwardly from the front portion of said appliance and having a threaded

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connection with said shoe member at a position spaced from said pivot pin to maintain said shoe member in a selected position and to form a bell-crank connection to said shoe member, said elongated means being operable at said front portion for pivoting said shoe member relative to said base structure to effect generally vertical movement of said foot portion relative to said base structure for changing the elevation of the rear of said appliance.

8. An adjustable support system for an appliance as defined in claim 7 wherein said shoe member is disposed between the sides of said appliance and generally below the center of gravity of the rear of said appliance.

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