Dec. 25, 1956 J. F. ETHERINGTON 2,775,500

CABINET STRUCTURES

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FIG. 1.

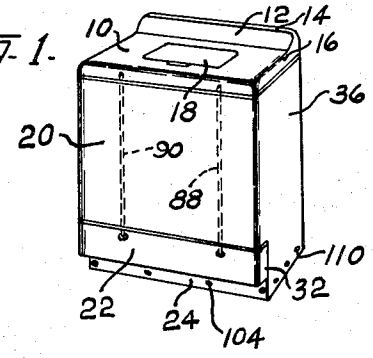


FIG. 2.

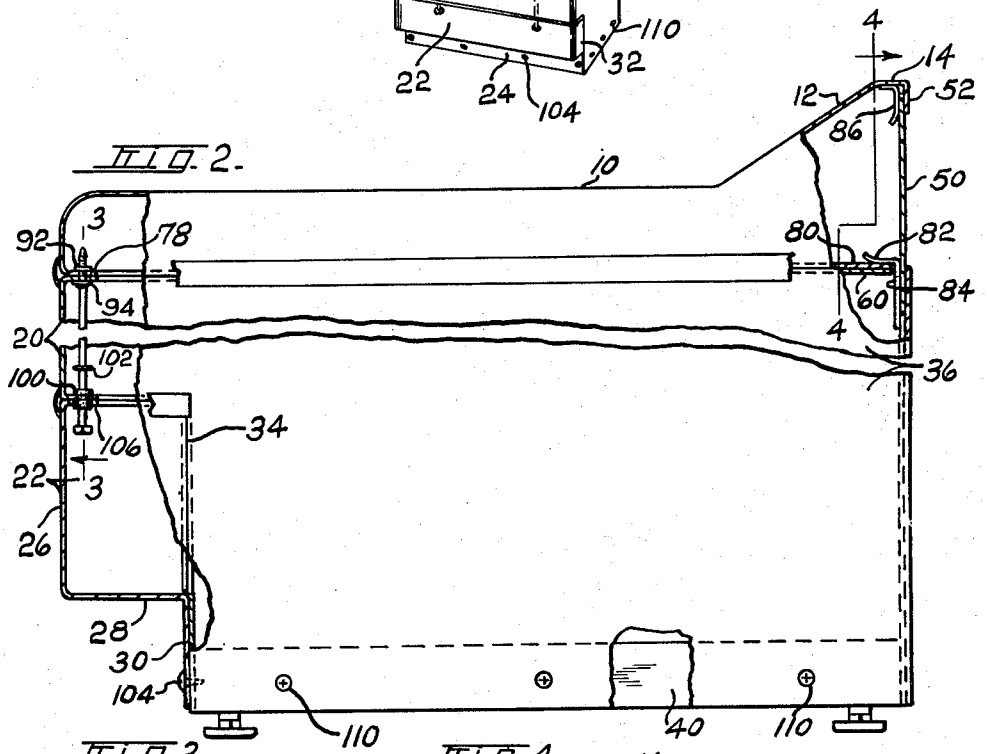


FIG. 3.

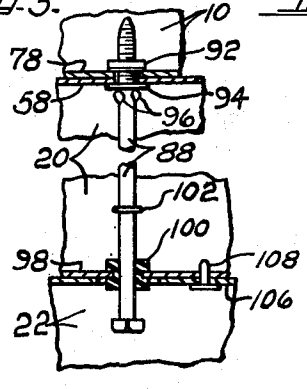
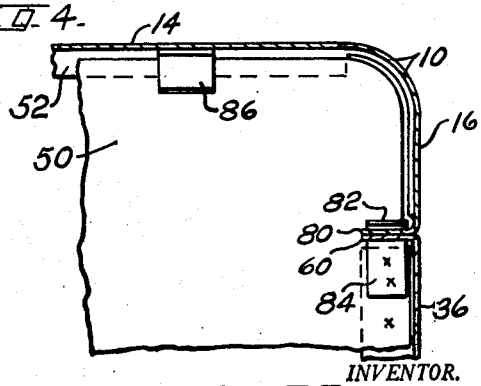


FIG. 4.



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FIG. 5.

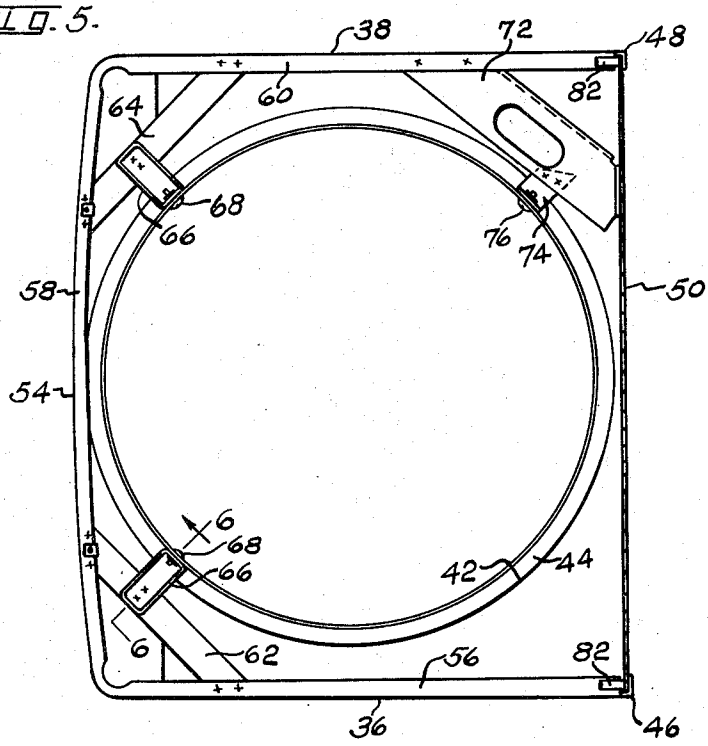
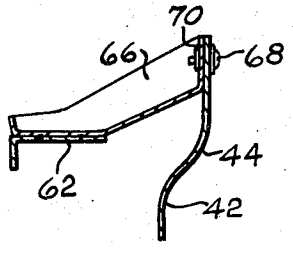


FIG. 6.



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2,775,500

CABINET STRUCTURES

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Application April 8, 1954, Serial No. 421,881

4 Claims. (Cl. 312—239)

This invention relates to appliance cabinet structures, and more particularly, as illustrated to a cabinet for a washing machine.

In washing machines, and similar apparatus, wherein moving parts and mechanism are present, which may require adjustment and repairs from time to time, it is desirable to provide a cabinet structure which may be readily removed to expose the mechanism. Washing machines in particular, of the automatic type and such as are shown in application No. 359,100, filed June 2, 1953, are relatively heavy, and once placed in position, are difficult to move, and when adjustments are required, the cabinet structure generally forms an obstacle to access to the mechanism. It is therefore desirable, not only to be able to remove the cabinet structure, but to do so without having to necessarily move the appliance.

The present invention is directed to a cabinet structure, which is readily removable from the mechanism housed within. The invention further relates to a removable top panel or deck, so devised as to be freed for removal from readily accessible locations at the front of the cabinet structure. The invention further has to do with a cabinet side wall assembly detachable from positions forward of the rear of the apparatus and removable as a unit without requiring the movement of the apparatus from its position or away from a wall. The invention further relates to a structure in the form of a unit that may be assembled during manufacture with economy.

The above and other novel features of the invention will appear more fully hereinafter from the following detailed description when taken in conjunction with the accompanying drawings. It is expressly understood that the drawings are employed for purposes of illustration only and are not designed as a definition of the limits of the invention, reference being had for this purpose to the appended claims.

In the drawings, wherein like reference characters indicate like parts:

Figure 1 is a perspective view of a typical cabinet structure to which the invention may be applied;

Figure 2 is a side elevational section compressed and with parts shown in section;

Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 2;

Figure 4 is a broken section taken substantially on the line 4—4 of Figure 2;

Figure 5 is a top plan view of the cabinet with the top removed; and

Figure 6 is a fragmentary sectional view taken substantially on the line 6—6 of Figure 5.

In Figure 1, there is shown a cabinet adapted for enclosing a washing machine of the general type disclosed in a copending application Serial No. 359,100, filed June 2, 1953. Such cabinet comprises a top deck 10 which has a sloping panel 12 at the rear with a rearwardly extending marginal flange 14. The deck also has a depending flange or skirt 16 extending around two sides and the front of the cabinet structure.

The deck may be formed from a single sheet of metal and may also be provided with an access door 18 on the top thereof. The front and side walls of the cabinet may be formed of a single sheet of metal sometimes referred to as a "wrap-around." The lower portion of the front panel 20 is cut away and provided with a removable panel structure 22 having an inward offset 24 adjacent the floor, providing toe space.

The lower panel structure 22 comprises a front wall 26 acting as a lower continuation of the front panel 20 and an inwardly extending portion 28 and a toe panel 30. The lower panel 22 further is provided with side cheeks 32 which are adapted to interfit with a rectangular notch 34 cut in each of the side panels 36 and 38.

The mechanism housed within the cabinet is supported upon a base frame 40 which is rectangular in shape and may be formed of angle irons, the upstanding flanges of which define the marginal dimensions of the base.

Rigidly mounted upon the base in any suitable manner is a large wash tub 42, the upper rim of which lies substantially in the plane of the upper edge of the wrap-around 20 or thereabove. The upper rim has an annular offset 44 (see Figures 5 and 6) which stiffens the rim. The wrap-around 20 along its rear edges 46 and 48 is inwardly flanged, and a back panel 50 is mounted underneath such flanges, and may be secured thereto by spot-welds or any other suitable fastenings. The back panel 50 will extend upright into the marginal flange 14 of the inclined deck portion, and the flange 14 is provided with a further depending flange 52 which is adapted to embrace the upper edge of the back panel 50.

The upper edge of the front 54 and sides 36 and 38 of the wrap-around are inwardly flanged as at 56, 58 and 60 to form a seat, and across the front corners thereof, there is provided in each a diagonal brace 62 and 64 respectively, such braces being spot-welded to the respective flanges in the manner shown. Each of such braces as is shown in Figure 6, is provided with an open box bracket member 66 suitably welded to the brace and extending to the rim of the tub 42 where the same is secured to the tub rim by a removable threaded fastening 68, preferably in the form of a screw, such screw being threaded into the flange 70 of the member 66 or being provided with a nut.

One of the side panels such as 38 is provided with an additional diagonal brace 72 extending to the back panel 50, and such brace is provided with a bracket 74 adapted to be secured to the rim of the tub 42 by a threaded fastening in the form of a screw 76. The deck 10 and particularly the flange 16 extending across the front and sides thereof has along its lower marginal edge an inwardly directed seating flange 78, such flange being similar to and being adapted for resting upon the flanges 56, 58 and 60 of the front and side wall wrap-around.

The flange 78 in the rear extremities as at 80 is adapted to rest upon flange 60 and to be slid under an angle clip member 82, the vertical portion 84 of which may be welded to the back panel 50.

The top deck 10 underneath the flange 14 may be provided with two or more angle clips 86, a resilient portion of which extends downwardly and parallel to the depending flange 52, such clip being spaced from the flange 52 by the approximate thickness of the back panel 50.

From the structure thus described, it will be seen that by raising the front of the deck structure, the flange 80 may be withdrawn from under the resilient tongue of clips 82 and thereafter the flange 14 lifted from the back panel 50. Thus, by such movement the deck may be secured at the rear to the remaining structure or quickly released.

In order to hold the top deck down at the front and to the side wall wrap-around, in such a manner that the

same may be detached from a convenient location at the front of the cabinet, there are provided a pair of elongated screws 88 and 90 which extend through the flange 58 and into threaded members or collars such as 92 secured to the inwardly projecting deck flange 78. The elongated screws are provided near their upper ends with a head washer 94 forming a collar or shoulder adapted to engage the flange 58, such washers being retained in place by upset wings 96 formed in the shank portion of the screws 88 and 90. The head end of the screws 88 and 90 extend downwardly through an aperture in the lower flange 98 of the front panel and through a grommet 100 seated in an aperture in the flange 98. A shoulder ring 102 is mounted on each of the screws 88 and 90 to allow the screws to drop a distance equal approximately to that portion of the length of the threaded end at the upper end which would normally project above the level of the flange 58, so that when it is desired to remove the top deck, it is merely necessary to loosen the screws 88 and 90 from below and allow the same to drop a distance such that the threaded points of the screws 88 and 90 are free of the threads in the collars 92.

As will be understood, the lower panel 22 is held in place by one or more screws such as 104 threaded into the frame 40, and the upper end of the panel has an inwardly extending flange 106 adapted to match the lower flange 98 of the front panel, and the flange 106 of the lower panel 22 is provided with one or more pins 108 integrally secured thereto and adapted to project through aligning apertures in the flange 98.

Thus it will be seen that the lower panel 22 is readily removable by removing the accessible screws 104 and dropping the same with reference to the main front panel 20. Thus access to the screws 88 and 90 is had so that such screws may be loosened and dropped from the deck flange 78 whereupon the deck may be lifted at its forward edge and the rear portions thereof disengaged first from the resilient clips 82 and thereafter from the upper edge of the back panel 50. Upon the removal of the deck 10, the entire wrap-around assembly and back panel may be removed from the base 40 and the mechanism which it surrounds, by removing the screws 110 holding the side panels to the frame 40 and by removing the screws 68 and the screw 76.

It will thus be seen that there is nothing to prevent the lifting of the front and side walls and rear panel upwardly over the mechanism so that the entire mechanism within the cabinet structure will become immediately accessible.

Access to the mechanism in this manner is had without removing the frame from its position on the floor or withdrawing the frame and the mechanism from the back wall in any manner, since there are no fastenings which face to the rear of the cabinet structure which require attention.

It will be readily understood that when it is desired to replace the wrap-around and back panel assembly upon the base and around the apparatus, it is merely necessary to lift the assembly and lower the same around the apparatus, and thereafter insert the side panel screws 110 and the screws 68 and the screws 76. Thereafter the deck may be placed in position by lowering the rear edge thereof over the back panel 50 and sliding the flanges 80 beneath the clips 82. Thereafter the elongated screws 88 and 90 are raised and threaded into the position to hold the forward edge of the deck in place. Thereafter the lower panel 22 is projected upward so that the pins 108 align in their respective apertures in the flange 98, and the screws 104 are then inserted and drawn tight.

While the invention has been described as particularly useful for servicing automatic apparatus of the type referred to, by reason of the fact that the entire cabinet structure may be readily removed with a minimum of effort, little time, and without moving the apparatus from its normal position or location, the structure facilitates initial assembly during the manufacturing process. In other words, once the apparatus has been assembled upon the base and adjusted, it is merely necessary to lower the wrap-around and rear panel as a unit upon the assembly, securing the same in place and thereafter placing the deck in position, securing the same and finishing with the mounting of the lower front panel. Thus the location of the apparatus and its leveling adjustment on an uneven floor need not be disturbed, and the apparatus can be adjusted and tested in its permanent position.

Although a single embodiment of the invention has been illustrated and described, it is to be understood that the invention is not limited thereto. As various changes in the construction and arrangement may be made without departing from the spirit of the invention, as will be apparent to those skilled in the art, reference will be had to the appended claims for a definition of the limits of the invention.

What is claimed is:

1. In an appliance cabinet structure, in combination, a base frame, upstanding mechanism rigidly mounted on said frame, a cabinet side panel assembly comprising front, side and rear panels arranged around said mechanism and frame, said side panels being detachably secured at their lower ends to said frame, and at their upper ends to said mechanism, the front panel of said assembly being cut away near the bottom thereof to form a toe space, said front and side panels being flanged inwardly around their upper edges, and said rear panel projecting above said side and front panels, a deck member adapted to be seated on said flange and having an inclined rear panel adapted to embrace the upper edge of the projecting rear panel, said deck member having a side skirt, and inwardly directed flanges adapted to seat upon the flanges of said front and side panels, and means on said deck member for receiving the upper edge of said rear panel, and means associated with said side panel flanges adjacent the rear panel for gripping the deck member flange to restrain upward movement thereof, and fastening means having an end accessible from the toe space and associated with said front panel on the inside thereof extending from the bottom thereof and adapted to pass through said front panel flange and secure the front deck flange thereto whereby upon loosening said fastening means, said deck panel may be lifted at its forward end while yieldingly pivoted at its rear end on the upper end of said rear panel to rock the flange forward of said gripping means and thereafter lifted from the panel assembly.

2. In an appliance cabinet structure, in combination, a base frame, upstanding mechanism rigidly mounted on said frame, a cabinet side panel assembly comprising front, side and rear panels arranged around said mechanism and frame, said side panels being detachably secured at their lower ends to said frame, and at their upper ends to said mechanism, the front panel of said assembly being cut away near the bottom thereof to form a toe space, said front and side panels being flanged inwardly around their upper edges, and said rear panel projecting above said side and front panels, a deck member adapted to be seated on said flange and having an inclined rear panel adapted to embrace the upper edge of the projecting rear panel, said deck member having a side skirt, and inwardly directed flanges adapted to seat upon the flanges of said front and side panels, and means on said deck member for receiving the upper edge of said rear panel, and means associated with said side panel flanges adjacent the rear panel for gripping the deck member flange to restrain upward movement thereof, and fastening means having an end accessible from the toe space and associated with said front panel on the inside thereof extending from the bottom thereof and adapted to pass through

said front panel flange and secure the front deck flange thereto, and a lower front offset panel adapted to be pinned to the lower edge of said front panel and secured to said frame, and adapted to conceal said fastening means.

3. In an appliance cabinet structure, in combination, a base frame, upstanding mechanism rigidly mounted on said frame, a cabinet side panel assembly comprising front, side and rear panels arranged around said mechanism and frame, said side panels being detachably secured at their lower ends to said frame, and at their upper ends to said mechanism, the front panel of said assembly being cut away near the bottom thereof to form a toe space, said front and side panels being flanged inwardly around their upper edges, and said rear panel projecting above said side and front panels, a deck member adapted to be seated on said flange and having an inclined rear panel adapted to embrace the upper edge of the projecting rear panel above the level of said flange, said deck member having a side skirt, and inwardly directed flanges adapted to seat upon the flanges of said front and side panels, and means on said deck member for receiving the upper edge of said rear panel, and means associated with said side panel flanges adjacent the rear panel for gripping the deck member flange ends to restrain direct upward movement thereof, and fastening means associated with said front panel on the inside thereof extending from an accessible location at the bottom thereof and adapted to pass through said front panel flange and secure the front deck flange thereto.

4. In an appliance cabinet structure, in combination,

a base frame, upstanding mechanism rigidly mounted on said frame, a cabinet side panel assembly comprising front, side and rear panels arranged around said mechanism and frame, said side panels being secured to said frame and said mechanism, the front panel of said assembly being cut away near the bottom thereof to form a toe space, said front and side panels being flanged inwardly around their upper edges, and said rear panel projecting above said side and front panels, a deck member adapted to be seated on said flange and having an inclined rear panel adapted to embrace the upper edge of the projecting rear panel, said deck member having a side skirt, and inwardly directed flanges adapted to seat upon the flanges of said front and side panels, and means on said deck member for receiving the upper edge of said rear panel, and means associated with said side panel flanges adjacent the rear panel for gripping the deck member flange to restrain direct upward movement thereof, and fastening means associated with said front panel on the inside thereof extending from the bottom thereof and having a threaded end adapted to pass through said front panel flange and secure the front deck flange thereto.

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