

Aug. 25, 1964

B. SACKS

3,146,044

ENCLOSURE

Filed March 8, 1962

2 Sheets-Sheet 1

Fig. 1

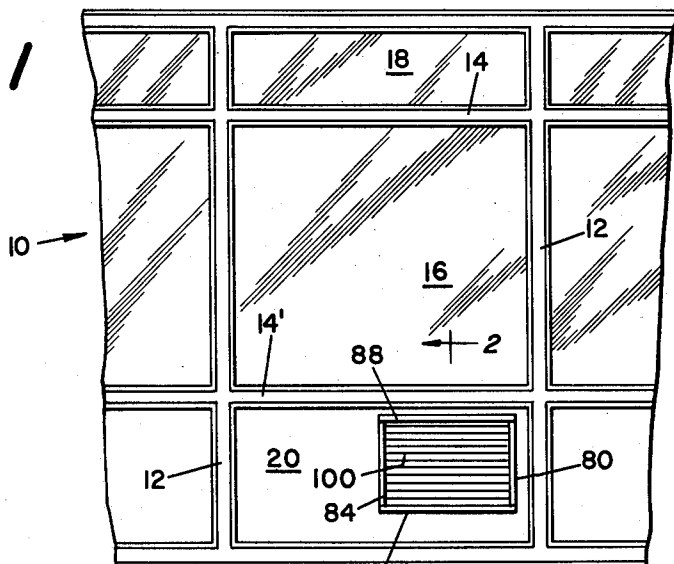


Fig. 4

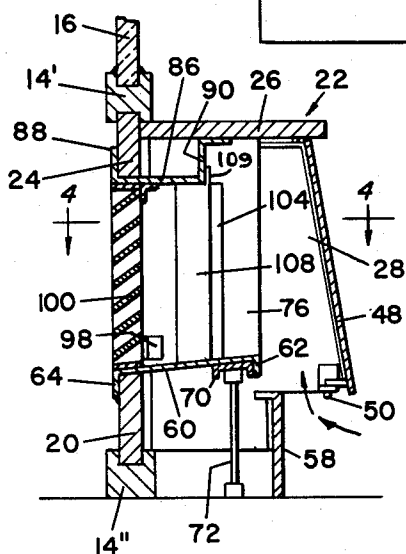
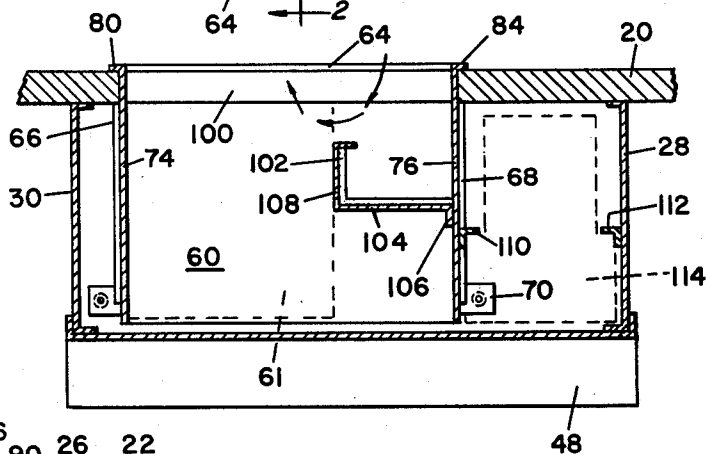


Fig. 2

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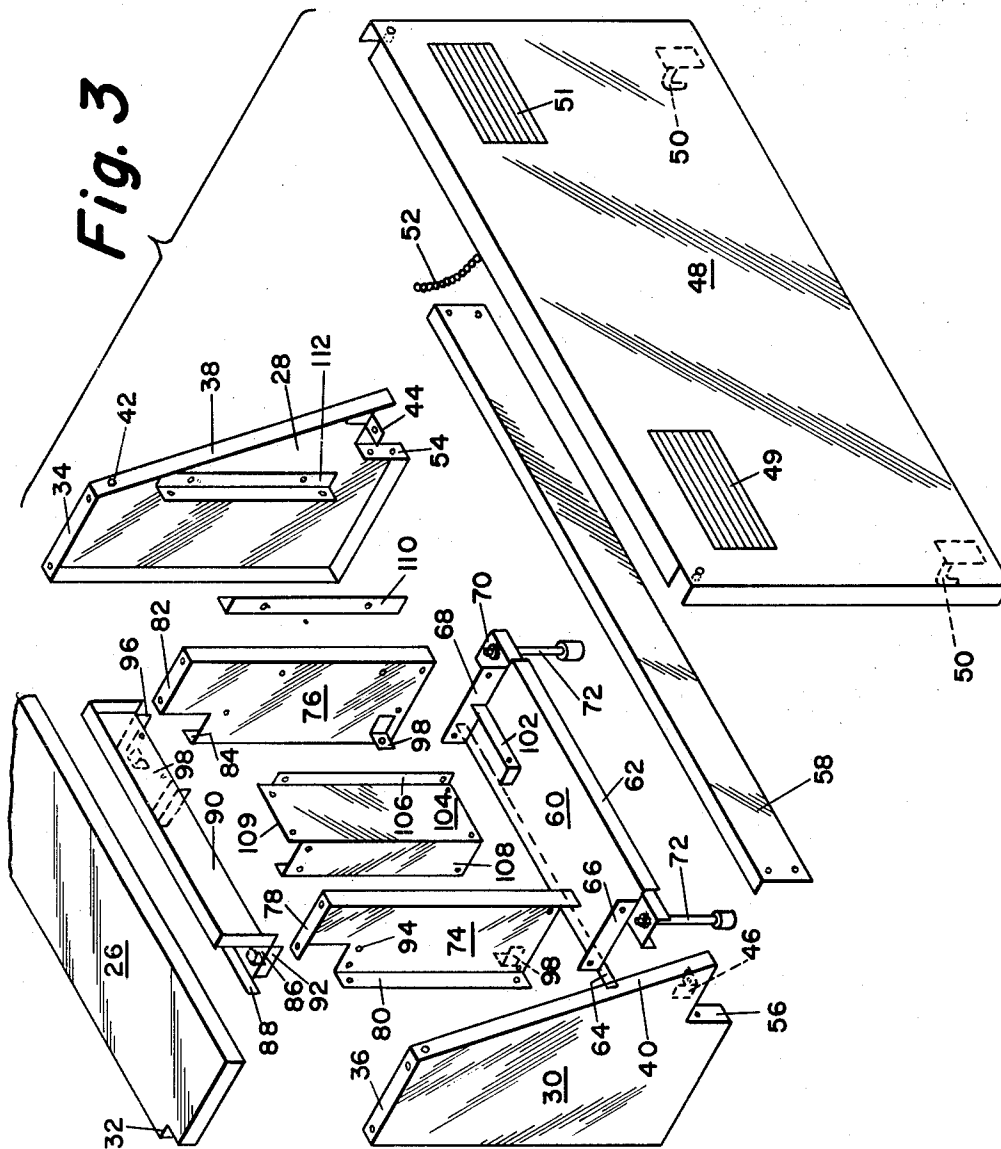
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8 Claims. (Cl. 312—213)

This invention relates to an enclosure, and more particularly, to a knock down enclosure adapted to house two diverse systems.

The enclosure of the present invention is of the knock down type so that it may be disassembled and shipped in a flat condition thereby minimizing the shipping space. The enclosure of the present invention is adapted to support an air conditioner and a heating unit therewithin. The enclosure is adapted to be mounted in a panel of a curtain wall.

The enclosure of the present invention lacks a rear wall and is adapted to receive a louver or the like. The enclosure lacks a bottom wall but includes an internal bottom panel on which an air conditioner is adapted to be supported. Means are provided to cause moisture from the air conditioner to be conveyed to an outside surface on the curtain wall panel. Such means may include the disposition of the bottom panel so that the front edge thereof is higher than the rear edge thereof, with a flange on the bottom panel overlapping a portion of the curtain wall panel.

The enclosure is provided with a pivotably mounted front wall which may be detached when desired. Preferably, the front wall is locked in its closed disposition to prevent tampering with the setting on the air conditioner or heating system. Since a portion of the support for the air conditioner extends through an aperture in the curtain wall panel, the enclosure of the present invention will be a built-in structure forming a part of the wall of a building or the like.

It is an object of the present invention to provide a novel enclosure.

It is another object of the present invention to provide a novel knocked down enclosure capable of being built in a wall or the like.

It is another object of the present invention to provide a novel enclosure for an air conditioner.

It is another object of the present invention to provide a novel enclosure for an air conditioner and a heating system.

It is another object of the present invention to provide a novel enclosure adapted to encase an air conditioner and support the same in a manner so that moisture from the air conditioner is conveyed to the outer surface of a wall.

It is another object of the present invention to provide a novel knock down enclosure having a pivotable front wall and lacking a bottom and rear wall.

It is another object of the present invention to provide a novel enclosure adapted to have a decorative outer appearance so that it may form an integral part of a wall structure of a building or the like.

Other objects will appear hereinafter.

FIGURE 1 is a partial elevation view of the outside face of a building constructed with a curtain wall.

FIGURE 2 is a sectional view taken along the lines 2—2 in FIGURE 1.

FIGURE 3 is an exploded view of the various components of the enclosure of the present invention.

FIGURE 4 is a sectional view taken along the lines 4—4 in FIGURE 2.

Referring to the drawing in detail, there is shown in FIGURE 1 a portion of a building designated generally as 10.

The building 10 is provided with a curtain wall which includes upright support mullions 12 and horizontally dis-

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posed reinforcement structural members 14, 14' and 14'' extending between the mullions 12. A central rectangular opening of the frame structure is provided with a pane of glass 16. A curtain wall panel 18 may be provided in a rectangle thereabove and a curtain wall panel 20 is provided in a rectangle therebelow. The panels 18 and 20 are referred to as curtain wall panels since they have a relatively small thickness and do not support the weight of the roof of the building. For example, a curtain wall panel has a thickness in the neighborhood of one to two inches.

The weight of the roof and the floors of the building above the first floor are self supporting.

As shown more clearly in FIGURE 2, there is disclosed a housing designated generally as 22. The housing 22 is disposed on the inner surface of the curtain wall and is a built-in housing. The housing 22 has a portion extending through an aperture 24 in the panel 20 as will be made clear hereinafter. The housing 22 includes a horizontally disposed top wall 26 and side walls 28 and 30 depending therefrom. The top wall 26 may be made of plywood or the like with a layer of decorative material on its uppermost surface. For example, the layer of decorative material may be a layer of Formica, leatherette, vinyl, etc.

The top wall 26 has a length corresponding with the distance between adjacent mullions 12. The rear edge of the top wall 26 is provided with a notch 32 in each corner, only one notch is shown in FIGURE 3, so as to receive a mullion 12 in the notch. The side wall 28 is provided with an intumed flange 34 along its top edge. The flange 34 is adapted to be bolted to the bottom surface of the top wall 26. Likewise, the top edge of the side wall 30 is provided with an intumed flange 36 adapted to be bolted to the bottom surface of the top wall 26.

The front edge of the side walls 28 and 30 are disposed at an angle with respect to the vertical. The angled edge on the side wall 28 is provided with an intumed flange 38. The angled edge on the side wall 30 is provided with an intumed flange 40. A lock device 42 is secured to the flange 38 adjacent the upper edge thereof. The side wall 28 is provided with a bracket 44 on its inner surface. The side wall 30 is provided with a bracket 46 on its inner surface.

A front wall 48 is provided and is adapted to overlie the flanges 38 and 40. The front wall 48 is provided on its inner surface with a pair of fingers 50, only one shown. The fingers 50 are adapted to extend into the elongated holes in the brackets 44 and 46 thereby enabling the front wall 48 to pivot toward and away from the flanges 38 and 40.

The front wall 48 is provided with spaced louvers 49 and 51. A chain 52 has one end secured to the inner surface of the front wall 48. The other end of the chain 52 is adapted to be connected to the bottom surface of the top wall 26. The chain 52 limits the extent to which the front wall 48 may pivot toward its open disposition thereby exposing the interior of the housing 22. The chain is adapted to be disconnectible with respect to the front wall 48 thereby enabling the front wall 48 to be entirely removed when desired. Since the front wall 48 is pivotably mounted by means of the fingers 50, no structure need be disconnected in order to remove the front wall 48.

The side walls 28 and 30 are provided with upright flanges 54 and 56, respectively. The flanges 54 and 56 extend from the bottommost edge of the side walls 28 and 30 to a point slightly below the horizontally disposed arm on the brackets 44 and 46. A kick plate 58 is adapted to be releasably secured to the flanges 54 and 56. As shown more clearly in FIGURE 2, the kick plate 58 may

have a height greater than the height of the flanges 54 and 56.

Internal supporting structure is provided within the housing 22 to support an air conditioner 61. Such supporting structure includes a bottom panel 60 having a front flange 62 and a rear flange 64. As shown more clearly in FIGURES 1 and 2, the bottom panel 60 extends through the aperture 24 in the panel 20 so that the flange 64 overlaps the outermost surface of the panel 20. The bottom panel 60 is provided with upright side flanges 66 and 68.

The front edge of the bottom panel 60 is maintained in spaced relation from the floor of the building by means of a support plate 70. The support plate 70 has selectively adjustable leveling legs 72. Means are provided so that any moisture from the air conditioner 61 is automatically transmitted through the panel 20 to the outermost surface thereof. Such means includes the disposition of the flange 64 and the angled disposition of the panel 60. Thus, the legs 72 are preferably adjusted so that the front edge of the panel 60 is approximately one quarter of an inch higher than the rear edge thereof. It will be appreciated by those skilled in the art that other means may be provided to accomplish this desirable result. For example, the plate 60 may be provided with grooves having a depth which increase as they extend from the front edge to the rear edge of the panel 60.

A pair of side panels 74 and 76 are disposed between the flanges 66 and 68. Side panel 74 is adapted to be removably secured to the flange 66. Side panel 76 is adapted to be removably secured to the flange 68. The upper edge of the side panels 74 and 76 have a length from front to rear which is less than the bottom edge thereof. A flange 78 is provided on the uppermost edge of panel 74. A flange 82 is provided on the uppermost edge of the panel 76. The flanges 78 and 82 are adapted to be removably secured to the top wall 26.

A panel 74 is provided with an outturned rear flange 80 which is adapted to be releasably secured to the panel 20. Panel 76 is provided with a similar outturned flange 84 which is adapted to be secure to the panel 20. A top panel 86 is provided for cooperation with the panels 60, 74 and 76 so that the supporting structure for the air conditioner 61 will be a four sided structure. The top panel 86 is provided with a rear flange 88 which extends upwardly and overlaps the outer surface of the panel 20.

The top panel 86 is provided with an upwardly extending flange 90 along its front edge which is adapted to be releasably secured to the top wall 26 of the housing 22. As will be evident by a comparison of FIGURES 2 and 3, the distance between the front and rear edges of the top panel 86 is substantially less than the corresponding distance on the panels 74 and 76. This relationship will be more evident from the structure whereby the top panel 86 is releasably secured to the side panels 74 and 76. Hence, the top panel 86 is provided with depending side flanges 92 and 96. The flange 92 is adapted to be releasably secured to the side panel 74 by means of fasteners extending through holes 94 in panel 74. Comparable holes are provided on the panel 76 for securing the flange 96 thereto.

A bracket 98 is provided adjacent the bottom of the rear edge of the panels 74 and 76. A bracket 98 is provided adjacent each end of the rear edge of the top panel 86. A louver 100 is releasably secured in the aperture defined by the flanges 64, 80, 84 and 88. The louver 100 is provided with fasteners adapted to be releasably connected to the brackets 98.

An L-shaped bracket 102 is mounted on the panel 60 adjacent the flange 68. As seen more clearly in FIGURES 3 and 4, the bracket 102 has a long leg substantially perpendicular to the flange 68 and a short leg substantially parallel to the flange 68. An L-shaped panel 104 is provided. The panel 104 is substantially identical with the

configuration of the bracket 102. The lower edge of the panel 104 is releasably secured to the bracket 102.

The panel 104 is provided with a side flange 106 adapted to be releasably secured to the side panel 76. The panel 104 has a side wall 108 adapted to be juxtaposed to a side wall of the air conditioner 61 with a strip of sealing material such as a gasket or the like disposed therebetween so as to provide an airtight seal between the air conditioner 61 and the wall 108. A flange 109 is provided on the upper edge of the panel 104. The flange 109 is adapted to be releasably secured to the flange 90 on the top panel 86.

As shown more clearly in FIGURE 4, the louver 100 extends between the side panels 74 and 76. The panel 104 obstructs a portion of the space between the side panels 74 and 76. When the air conditioner 61 is mounted on the bottom panel 60 between the side panel 74 and the wall 108 on the panel 104, air may enter the housing 20 through the louver 100, pass into the air conditioner 61, and out through the louver 100 as illustrated by the arrows in FIGURE 4. The provision of the panel 104, depends upon the type of air conditioner being utilized. With certain types or makes of air conditioners, the panel 104 will not be necessary. An angle iron bracket 110 is releasably secured to the side panel 76. An angle iron bracket 112 is releasably secured to the side wall 28. The brackets 110 and 112 are adapted to support a heater 114. Warm air from the heater 114 may enter the room by way of louver 51. Cool air from the air conditioner 61 will enter the room by way of the louver 49. Air may return from the room to the air conditioner 61 or heater 114 as shown by the arrow in FIGURE 2. A junction box, not shown, is adapted to be supported in any convenient location so as to provide an electrical coupling junction facilitating the coupling of electricity for the air conditioner and/or heater 114. It is possible to utilize a variety of heaters 114. That is the heater 114 may be electrical, steam or a hot water type. Suitable knockout holes may be provided in the kick plate 58 or side wall 28 to facilitate plumbing connections if the heater 114 is of a hot water or steam type.

In view of the above, it will be seen that the present invention is directed to a knock down enclosure which is adapted to house an air conditioner and/or heater. Means are provided so that condensation from an air conditioner will automatically be transmitted through a curtain wall panel to the exterior thereof. The enclosure of the present invention is adapted to have top, side and front walls which are decoratively coated so as to provide an attractive enclosure of the built-in type. Seals are provided so that unwanted outside air cannot enter into the building. If desired, the enclosure may be installed without the air conditioning unit and louver 100 will be replaced with a solid panel.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

I claim:

1. An article of manufacture comprising an enclosure having a top wall, side walls connected to said top wall along side edges thereof, a pivotably supported front wall extending between said side walls, said enclosure lacking a bottom wall so that the interior thereof may be in communication with the surrounding atmosphere, means within said enclosure for supporting an air conditioner therein, said means including a substantially horizontal panel, said panel having a front edge and a rear edge, the front edge of said panel being closer to said front wall than said rear edge, and means for selectively adjusting the elevation of said front edge of said panel.

2. An article of manufacture comprising an enclosure having a top wall, side walls connected to said top wall along side edges thereof, a pivotably supported front wall

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extending between said side walls, said enclosure lacking a bottom wall so that the interior thereof may be in communication with the surrounding atmosphere, means within said enclosure for supporting an air conditioner therein, said means including a substantially horizontal panel, said panel having a front and a rear edge, said front edge of said panel being closer to said front wall than said rear edge, means for selectively adjusting the elevation of said front edge of said panel, said rear edge of said panel being provided with a downwardly extending flange, said rear edge portion of said panel adapted to extend through a wall of a building with said flange on said rear edge of said panel being juxtaposed to an outermost surface of the wall of the building.

3. An article of manufacture comprising an enclosure having a top wall, side walls connected to said top wall along side edges thereof, a pivotably supported front wall extending between said side walls, said enclosure lacking a bottom wall so that the interior thereof may be in communication with the surrounding atmosphere, means within said enclosure for supporting an air conditioner therein, said means including a four-sided supporting structure, a bottom panel on said supporting structure having a front edge higher than a rear edge thereof, and a louver releasably mounted in the aperture defined by said supporting structure along a rear edge of said supporting structure.

4. An article in accordance with claim 3 including a panel for blocking off a portion of the area in said supporting structure so that said supporting structure may accommodate an air conditioner having transverse dimensions which are smaller than the transverse dimensions of said supporting structure.

5. An article of manufacture comprising an enclosure having a top wall, side walls and a front wall, a supporting structure within said enclosure for supporting an air conditioner, said supporting structure including a bottom panel on which the air conditioner is adapted to be supported,

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a louver in a rear portion of said supporting structure, means providing for transmission of condensate from the air conditioner through said rear portion of said structure, said last mentioned means including a selectively adjustable member for raising a front edge of said bottom panel so that said front edge is higher than a rear edge thereof.

6. An article in accordance with claim 5 including means within said enclosure for supporting a heater with a panel of said supporting structure disposed in a position so that it will be between the air conditioner and the heater.

7. Apparatus comprising a wall of a building, an enclosure juxtaposed to an inner surface of said wall, said enclosure lacking a bottom wall so that the interior thereof may be in communication with the surrounding atmosphere, a supporting structure within said enclosure for supporting an air conditioner, said supporting structure including top, bottom, and side panels, each panel having a flange on the rear edge thereof overlapping an outer surface of the wall of the building, and a louver within said supporting structure adjacent the flanges on the panels.

8. Apparatus in accordance with claim 7 wherein said enclosure is provided with a front wall, said bottom panel having a front edge spaced from said first wall, said front edge being disposed in an elevation higher than the elevation of the rear edge of said bottom panel, and said front edge of said bottom panel being closer to said front wall of said enclosure than said rear edge.

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