Nov. 26, 1957 P. E. HORD 2,814,244

WINDOW MOUNTED ROOM AIR CONDITIONER

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Fig. 1.

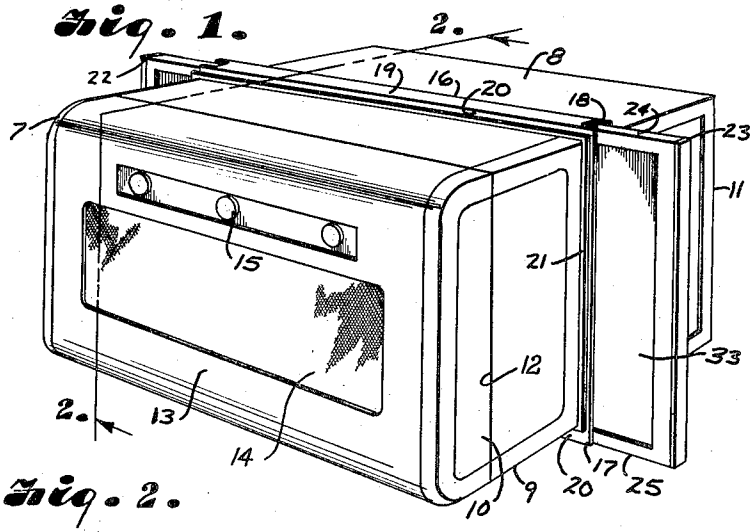


Fig. 2.

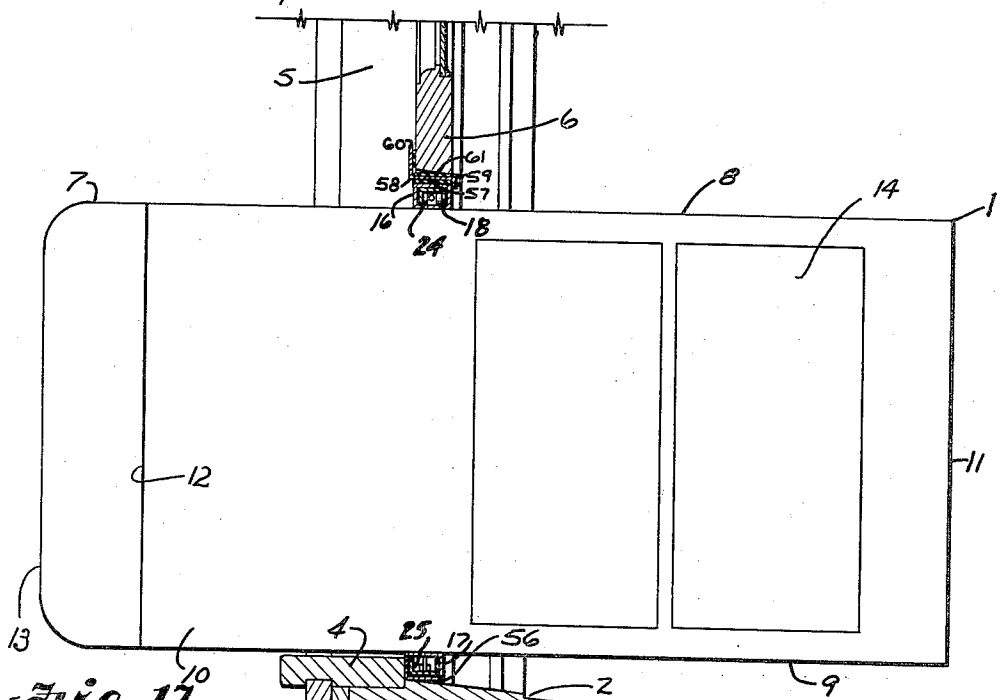
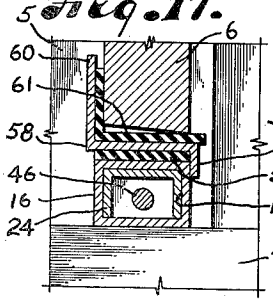


Fig. 17.



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Fig. 3.

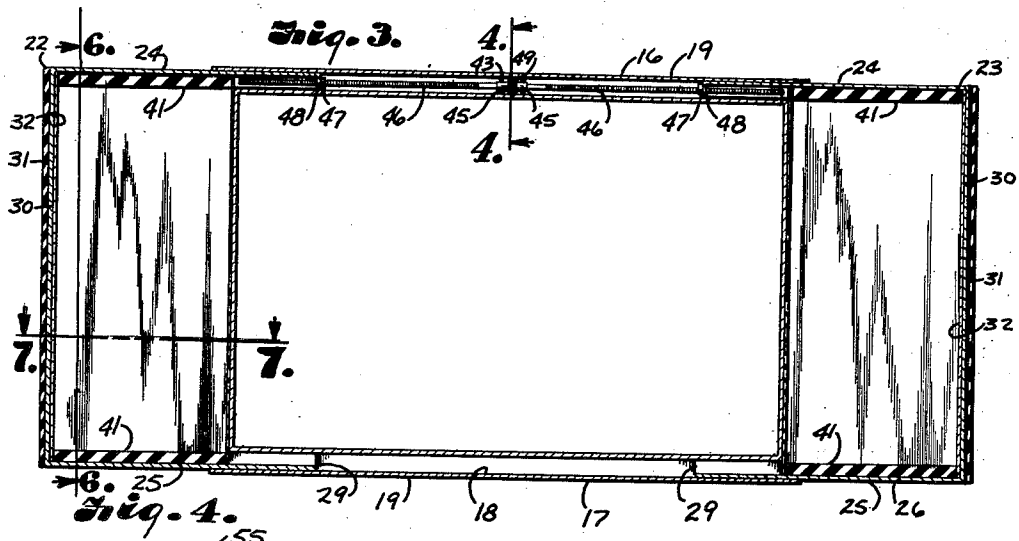


Fig. 4.

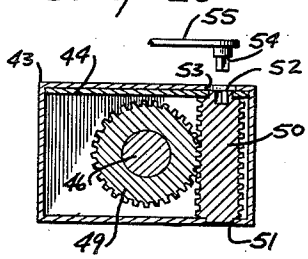


Fig. 5.

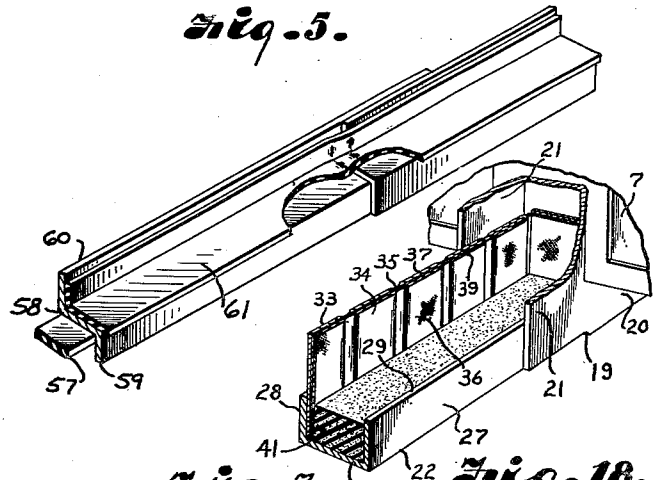


Fig. 6.

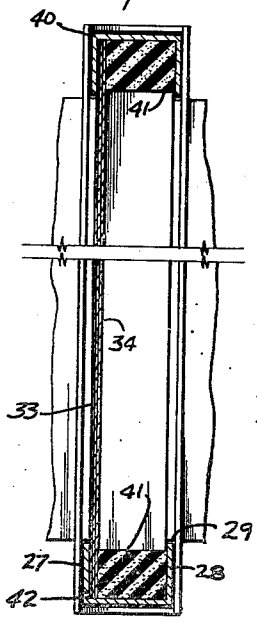
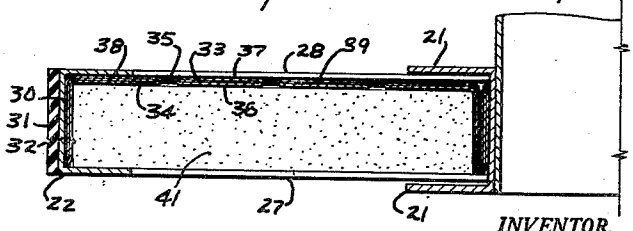


Fig. 7.

Fig. 18.



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Fig. 8.

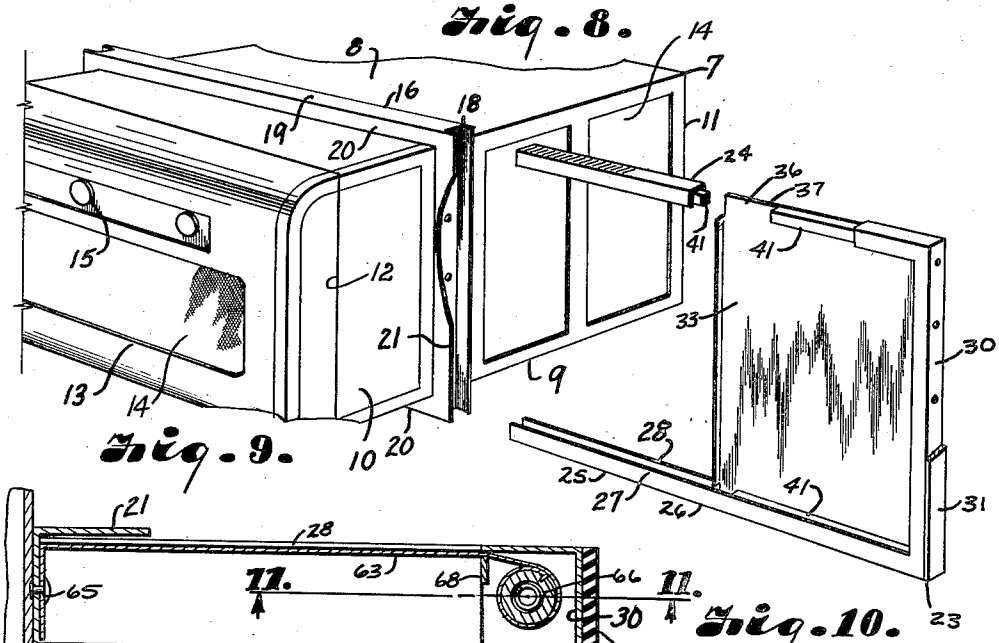


Fig. 9.

Fig. 10.

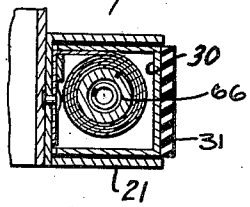


Fig. 11.

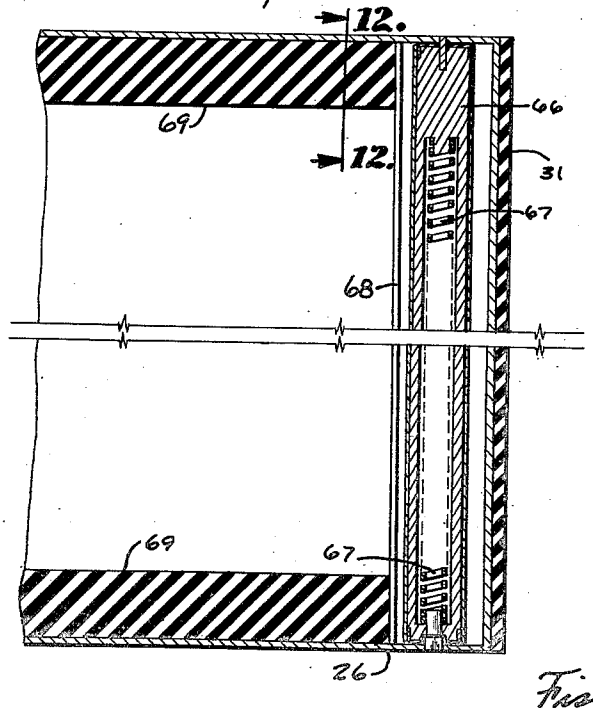
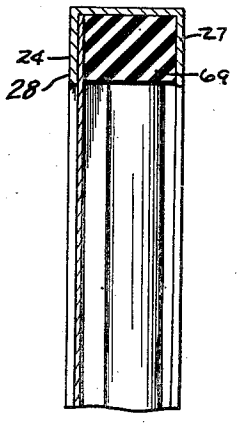


Fig. 12.



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Fig. 13.

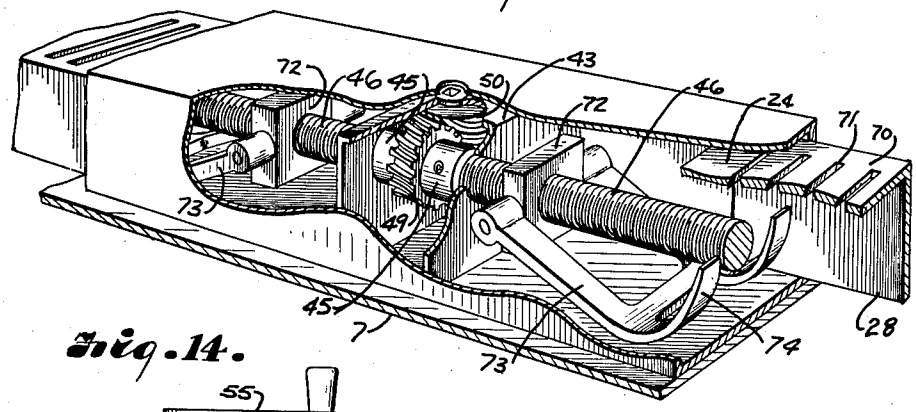


Fig. 14.

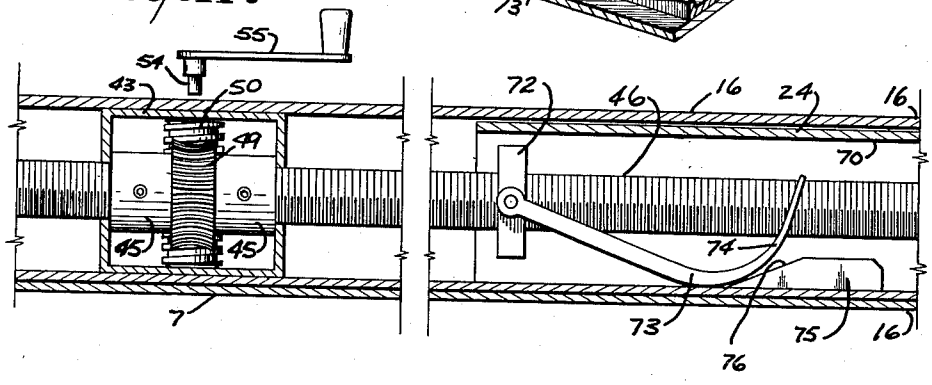


Fig. 15.

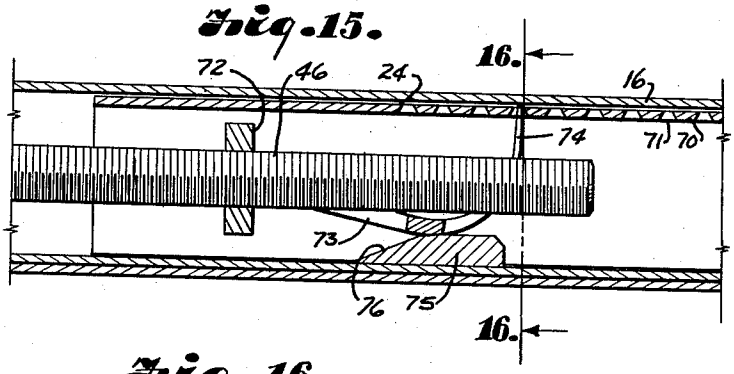
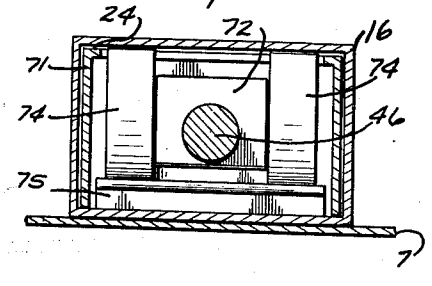


Fig. 16.



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WINDOW MOUNTED ROOM AIR CONDITIONER

Paul E. Hord, Tebbetts, Mo.

Application May 26, 1954, Serial No. 432,428

7 Claims. (Cl. 98—94)

This invention relates to room air conditioners such as the self-contained, air-cooled refrigeration type, and more particularly to a room air conditioner having structure thereon for supporting same in a window opening.

Room air conditioners of this general character have heretofore been mounted in window openings with a portion of the units extending exteriorly of the window opening and a portion extending into the room with a fixed mounting on the window sill including brackets, clamps and the like to form a more or less permanent mounting to substantially support the entire weight of the room cooling unit. Then the remainder of the window opening between the sides of the room cooling unit and window frame and window sash and sill is usually closed by cutting metal or like sheets to the proper size and installing same with gaskets to prevent air leakage around the room cooling unit. Such mountings are laborious, time-consuming and usually require an experienced service man to make the installation.

The principal objects of the present invention are to provide a window mounted room air conditioner having air conditioning and circulating equipment in a shell with side panels adjustable with respect to the shell for contacting the faces of the window frame whereby the structure is adjustable to fit windows of different width; to provide a self contained device of this character wherein end panels have portions telescopingly and slidingly engaging the shell with an expansible member in each of the end panels to close the space between the sides of the window frame and shell; to provide a room air conditioning unit with a shell having trackway housings for slidably receiving guide members of adjustable end panels; to provide end panel moving mechanism for selectively moving the end panels with respect to the room air conditioner shell and into engagement with the sides of a window frame with sufficient force to retain the structure in the window opening without auxiliary fastening devices; to provide such a mounting with resilient gaskets and stripping whereby when mounted in the window opening the structure is substantially watertight and operable without noise or vibration in the mounting; and to provide a window mounted room air conditioning unit that is easily adjusted to various size window openings as it is installed therein and that can be quickly and easily removed from one window to another of different size, yet be efficient and weathertight in operation.

In accomplishing these and other objects of the present invention, I have provided improved details of structure the preferred forms of which are illustrated in the accompanying drawings, wherein:

Fig. 1 is a perspective view of a room air conditioning unit having adjustable end panels thereon for mounting same in a window opening.

Fig. 2 is a vertical sectional view through the window opening with the room air conditioner in operative position therein.

Fig. 3 is a vertical sectional view through the air conditioner shell, trackway housings and end panels.

Fig. 4 is a vertical sectional view through the panel operating members on the line 4—4, Fig. 3.

Fig. 5 is a perspective view of a portion of the sealing strips arranged between the lower window sash and the air conditioner structure.

Fig. 6 is a vertical sectional view through an end panel taken on the line 6—6, Fig. 3.

Fig. 7 is a horizontal sectional view through the end panel taken on the line 7—7, Fig. 3.

Fig. 8 is a disassembled perspective view of the air conditioning unit and end panel.

Fig. 9 is a horizontal section view through an end panel with a modified form of extensible member therein.

Fig. 10 is a horizontal sectional view through an end panel similar to Fig. 9 with said end panel retracted toward the air conditioner shell.

Fig. 11 is a vertical sectional view through the end panel on the line 11—11, Fig. 9.

Fig. 12 is a vertical sectional view through the end panel on the line 12—12, Fig. 11.

Fig. 13 is an enlarged perspective view of a portion of the trackway housings on the air conditioning shell with portions broken away to illustrate a modified form of panel operating members.

Fig. 14 is a vertical sectional view through the trackway housing with end panel operating fingers disengaged from the panel guide members.

Fig. 15 is a partial vertical sectional view through the trackway housing with the fingers engaged with the end panel guide members.

Fig. 16 is a transverse sectional view through the trackway housing on the line 16—16, Fig. 15.

Fig. 17 is an enlarged sectional view through the upper portion of the shell and trackway thereon.

Fig. 18 is an enlarged partial perspective view of the extensible member and extension frame.

Referring more in detail to the drawings:

1 designates an air conditioner of the room cooler type adapted to be mounted in a window opening 2 of a frame 3 having the usual sill 4, side faces 5 and lower sash 6. The air conditioner includes a shell 7 preferably formed of suitable sheet metal or the like connected to form a top wall 8, bottom wall 9, side walls 10 and a rear wall 11 whereby the shell has an open front 12 which is normally closed by a front panel 13 suitably connected and secured to the shell. In operation, the rear wall 11 is positioned externally of the window opening and the open front is positioned in the room to be air conditioned.

The air conditioner preferably includes motors, refrigeration compressors and coils, fans and filters (not shown), all of which are mounted on a frame of any suitable structure to form a chassis adapted to be slid into and contained in the shell 7. Suitable louvers or other openings 14 are arranged in the side walls 10, rear wall 11 and front panel 13 for movement of air to and from the shell for cooling the compressor and other refrigeration equipment, and also to and from the room to be cooled as well as for circulating the air in the room. Suitable controls 15 are preferably arranged on the front panel 13 for controlling the operation of the refrigeration and air moving and circulating equipment.

The particular room cooler refrigeration equipment and chassis or frame on which same is mounted is not a part of the present invention other than the arrangement of the shell or housing therefor with suitable mountings, trackway housing or the like whereby end panels are adjustably carried by the shell for movement into engagement with the side faces of a window frame for cooperation in the weathertight support of the room cooler structure in a window opening of any suitable size.

Trackway housings 16 and 17 are formed in or suitably fixed to the air conditioning unit shell 7 to provide

a substantially rectangular opening 18 in each of said housings which extend transversely of the shell 7 in spaced relation to the front and rear thereof, whereby the trackway housings are substantially under the lower sash of a vertically movable window. While the trackway housings are shown spaced from the forward end of the shell 7 they may be positioned as desired along the length thereof, as for example, adjacent the forward end of the shell when substantially flush mounting of the unit in the window frame is desired. In the illustrated structure the upper trackway housing extends upwardly from the top wall 8 and the lower trackway housing 17 extends downwardly from the bottom wall 9 of the shell 7. Each of the trackway housings 16 and 17 has walls 19 spaced from the respective top and bottom walls 8 and 9 of the shell and spaced side walls 20 to define the rectangular openings 18. The walls 10 of the shell are provided with parallel spaced flanges 21 extending laterally thereof and substantially coplanar with the walls 20 of the trackway housings, said flanges 21 being suitably secured to the walls 10 as by welding or the like.

End extension panel assemblies 22 and 23 are slidably engaged with the trackway housings 16 and 17 and movable endwise relative thereto for engaging the side faces 5 of the window frame to retain the structure in the window opening. Each of the end panels consist of upper and lower guide members 24 and 25 respectively, preferably consisting of channel members of suitable size to slide in the trackway openings 18 with the bar portions 26 of the channel guide members 24 and 25 engaging the inner surfaces of the walls 19 and the outer surfaces of the leg portions 27 and 28 of said channel guide members 24 and 25 engaging the inner surfaces of the walls 20 of said trackway housings. The free ends 29 of the legs 27 and 28 preferably engage the outer surface of the shell walls 8 and 9 or members forming the inner walls of the trackway openings 18, whereby the sliding engagement of the guide members 24 and 25 with the walls of the trackway openings 18 is such that the end panels may be moved endwise relative to the shell 7 and trackway housings with substantially no binding and little lateral play. The outer ends of the guide members 24 and 25 are suitably secured as by welding to vertical channel-shaped members 30, the legs of which are directed toward the shell 7 and trackway housing. A sponge rubber or other suitable gasket 31 is preferably suitably secured to the outer surface of the bar 32 which connects the legs of the vertical channel members 30 to form a resilient seal between the end panels 22 and 23 and the side faces 5 of the window frame. The width of the channels 30 is preferably the same as the width of the guide members 24 and 25 whereby the end panels may be moved toward the shell 7 until the channels 30 enter between the flanges 21 to present a minimum width for the entire structure.

Suitable extension members 33 are arranged in the end panels 22 and 23 in such a manner as to close the variable sized openings defined by the flanges 21, end panel guide members 24 and 25 and vertical channel members 30. In the structure illustrated in Figs. 1, 3, 6 and 7, each of the extensible members comprises a plurality of vertical panels 34, hingedly connected as at 35, with one of the panels being suitably secured to the bar portion 32 of the vertical channels 30 of the end panels and another panel at the other end of the extensible member suitably secured to the shell walls between the flanges 21. The extensible members 33 preferably consist of two sheets 36 and 37 of waterproof fabric, synthetic resin or other flexible materials sewed or otherwise suitably secured together at the hinge connections 35 to form pockets 38 between the hinge connections. Strips 39 of metal or other suitable, relatively rigid material are arranged in the pockets 38 to stiffen the respective panels 34 of the extensible members. The upper and lower edges of the extensible members 33 are preferably provided with

rubber or other resilient strips 40 to resiliently and sealingly engage the bars 26 of the guide members 24 and 25. As the end panels 22 and 23 are moved outwardly from the shell 7, the respective panels 34 are flattened against the inner surface of the legs 28 of the guide members 24 and 25 to effect a sealing engagement therewith, and then sponge rubber or the like 41 is inserted in the channel guide members 24 and 25 to retain the panels 34 in weathertight, sealing engagement with said legs 28. Other panels 34 of the extensible members 33, which are in excess of the spacing between the shell 7 and vertical channels 30, remain folded flat adjacent the shell 7 as illustrated in Fig. 7. If desired the panels 34 may be arranged in angular relation and the sponge rubber blocks 41 have corresponding angular surfaces to sealingly engage said panels 34 and hold the same in selected position.

Weep holes 42 or the like may be arranged at the bottom of the legs 28 in the guide members 25 whereby rain or moisture collecting in the guide members exteriorly of the extensible member 33 can drain to the outside of the window. The end panel members are movable relative to the shell 7 and trackway housings thereon to provide extensions that can be positively engaged with the side faces 5 of the window frame with sufficient pressure to retain the entire structure in the window frame without auxiliary fastening devices. While the end panels may be moved individually by individual operating devices, it is preferable that both end panels 22 and 23 be moved outwardly simultaneously.

In the structure illustrated in Figs. 3 and 4, a gear box 43 is removably secured and centrally located in the trackway housing 16. End walls 44 of the gear housing 43 are provided with aligned bearings 45 to rotatably mount cylindrical end portions of elongated screw members 46 which extend from the gear housing toward the end walls of the shell 7. One screw member has a right-hand thread and the other a left-hand thread and are screwed into internally threaded end members 47 suitably fixed to the free ends 48 of the guide members 24. A worm or other suitable gear 49 is arranged in the gear housing 43 and has a bore into which extends the cylindrical end portions of the elongated screw members 46, said worm gear being secured to the end portions of the screw members by suitable fastening devices, whereby rotation of the worm gear rotates the screw members. It is preferable that the worm gear have hubs which engage the inner surfaces of the end walls 44 of the gear housings or that collars or the like be utilized to prevent endwise movement of the gear and screw members whereby rotation of the worm gear 49 screws the screw members 46 into or out of internally threaded end members 47 to effect movement of the end panels 22 and 23 relative to the shell 7.

A worm or other suitable driving member is rotatably mounted in bearing openings 51 in the gearing housing 43 and meshes with the worm gear 49. One end of the worm 50 preferably has a recess 52 of polygonal cross section which aligns with an aperture 53 in the trackway housing for receiving a similar polygonal-shaped shaft 54 of a crank member 55, whereby said crank serves as a key which is removably engaged in the recess 52 to rotate the worm and turn the gear 49 to effect movement of the end panels 22 and 23. While the worm 50 may be arranged as desired for use of the key crank 55 from any side of the trackway housing, it is desirable in air conditioning housings wherein the refrigeration equipment and the like is mounted on a chassis removable from the shell 7 to have the recess 52 and aperture 53 accessible only from the inside of the shell 7, whereby it is necessary that the crank member be removed before the chassis and refrigeration equipment thereon can be inserted into the shell and also that the chassis and refrigeration equipment be removed from the shell before the crank can be used to operate the end panel moving mechanism. In other types of units the recess 52 may be accessible from

an aperture 53 in the top wall 19 or through a side wall 20. While the panel operating mechanism is shown only in the upper trackway housing, it can be arranged in the lower trackway housing or both housings and operate in the same manner.

In installing a room cooler constructed and assembled as described, the lower sash 6 is raised above the height required for the room cooler unit. Then a strip of felt, rubber or other suitable sealing material 56 is laid on the window sill completely across the window opening under the normal position of the lower sash 6. The crank member is then arranged to engage the shaft 54 with the recess 52 and the crank turned to retract the end panels 22 and 23 toward the shell 7 until the over-all width across the shell and end panels is less than the width of the window opening. Then the shell and panel assembly is lifted into the window opening and positioned as illustrated in Fig. 2 with the lower trackway housing 17 resting on the sealing strip 56. Then the crank 55 is turned to rotate the worm 50, which rotates the worm gear 49 and screw members 46 fixed to said worm gear, the crank being turned in a direction whereby the rotation of the screw members 46, in effect, screw same from the internally threaded end members 47 and thereby push the guide members 24 toward the sides of the window frame. This operation is continued until the resilient members 31 on the vertical channels 30 of the end panels engage the side faces 5 of the window frame. Then the shell 7 and end panel assembly is held in proper aligned position below the lower sash and the crank 55 turned further to move the end panels 22 and 23 outwardly with substantial pressure, which compresses both the resilient members 31 into tight engagement with the side faces 5 of the window frame and thereby tightly secure the entire assembly in the window frame, whereby the shell and panel assembly is in substantially rigid relation with said window frame. The crank 55 is then removed, and the worm and worm gear retain the screw members 46 against rotation and thereby positively retain the pressure of the end panels 22 and 23 against the window frame and prevent any dislodgment thereof. While the worm and worm gear and screw members are preferred, other suitable panel moving apparatus with conventional locks therefor could be utilized to retain the pressure of the end panels against the window frame.

A rubber or other suitable strip 57 is arranged along the top of the upper trackway housing 16 and the end panels for the full width of the window opening. Then a Z-shaped, preferably metal strip 58 is arranged on the sealing strip 57 with a depending flange 59 extending downwardly on the outside of the trackway housing 16 and upper members of the end panels and an upwardly extending flange 60 approximately at the inner side of the trackway housing. The strip 58 is preferably of two pieces with overlapped ends for adjusting the length of same to the width of the window opening and thereby eliminating any necessity of cutting metal members in the installation of the room cooler unit. A sealing strip 61 is placed on the Z-shaped strip 58 and then the lower sash 6 lowered into engagement with said sealing strip 61. If desired a single extruded or otherwise formed strip may be used in place of the strips 57, 58 and 61 provided the shape is such that flanges are arranged thereon to sealingly overlap portions of the window sash and engage the trackway or shell. This arrangement provides the weather seal around the entire unit to prevent movement of air, moisture or the like from entering the room around the periphery of the shell, trackway housings and end panels or through the end panels. The shell 7 is then ready to receive the refrigeration equipment therein.

In some instances conventional room coolers have braces, jacks or the like which extend from the shell exteriorly of the window and engage a ledge or side of the building having the window opening. Such braces

may be used if desired, however, in structures such as illustrated in Figs. 1 and 2, sufficient pressure can be exerted on the end panels 22 and 23 to hold same against the side faces of the window frame whereby the entire room cooler is supported thereby without auxiliary fastening devices.

In the form of the invention illustrated in Figs. 8 to 12 inclusive, the shell 7, trackway housings 16 and 17, flanges 21 and panel operating structures may be the same and operate the same as the structure illustrated in Figs. 1 to 5 inclusive. Also the end panels 22 and 23 preferably have the same guide members 24 and 25, vertical channel 30, and resilient seal strip 31. The modification of the invention as shown in Figs. 8 to 12 inclusive is in the extensible member 62, which consists of a flexible sheet 63 of suitable width whereby the upper and lower edges 64 engage the inner surface of the bar member 26 of the guide channel members 24 and 25 in each end panel. One end of the sheet 63 is suitably secured as at 65 to the shell 7 between the flanges 21. The other end of the sheet is secured to a cylindrical member 66 rotatably mounted in the vertical channel 30 for rotation about a vertical axis, the sheet 63 being wound on the cylindrical member 66. A spring 67 is arranged in engagement with the cylindrical member 66 and with a fixed portion of the end panel whereby the tension of the spring tends to rotate the cylindrical member 66 to wind the sheet 63 thereon. A bar or the like 68 is arranged in the vertical channel 30 and in spaced relation from a side flange thereof whereby the sheet 63 is guided adjacent said flange and lies substantially in engagement with side flanges of the channel guide members 24 and 25 on the side toward the exterior of the window opening. When the end panels 22 and 23 are moved outwardly relative to the shell 7 and into engagement with the side faces 5 of the window frame, blocks 69 of sponge rubber or the like are inserted in the guide channel members 24 and 25 to retain the edges of the sheet 63 in engagement with the legs of said channel to form a substantially weathertight seal therewith. If desired, suitable stiffeners or stays may be arranged in and extend vertically of the sheet 63 to aid in retaining same in said weathertight, sealing engagement.

The operation of installing a room cooler and end panel assembly as shown in Figs. 8 to 12 inclusive is substantially the same as that described in connection with the structure shown in Figs. 1 to 7 inclusive. The extensible member in the end panels is automatically extended as the end panels are moved outwardly of the shell whereby the extensible members always maintain a closure in the end panels.

The structure illustrated in Figs. 13 to 16 inclusive is a modified form of end panel operating mechanism. In this form of the invention the bar 70 of the end panel guide channel members 24 are provided with a plurality of spaced slots 71 extending transversely thereof. Nuts 72 are threaded on the screw members 46 and arms 73 are pivotally mounted on said nuts for swinging movement about an axis extending transversely of the trackway housing. The arms extend away from the gear housing 43 and terminate in upwardly extending fingers 74. Cam members 75 are fixed to the shell 7 or bottom of the trackway housing 16 in spaced relation to the gear housing 43, whereby when the worm gear 49 is rotated to turn the screw members 46 the nuts 72 thereon are moved away from the gear housing and move the arms 73 into engagement with a sloping cam face 76 on the cam members 75 which swing the arms 73 upwardly and engage the fingers 74 in an adjacent slot 71. Then continued rotation of the worm gear 49 moves the nut 72 and arms 73 and end panels 22 and 23 outwardly toward the side faces 5 of the window frame. Reversing of the rotation of the worm gear 49 retracts the arms 73 and when they move down the sloping cam face 76 the fingers 74 are disengaged from the slots 71 of the guide members 24. With this arrange-

ment when the fingers 74 are disengaged from the slots 71 the end panels are free to be moved in or out relative to the shell 7 and trackway housings 16 and 17, thereby providing a fast adjustment whereby the over-all width of the room cooling unit and end panel assembly is approximately the width of the window opening, thereby reducing the number of rotations of the worm gear 49 necessary to apply pressure to the end panel members and force same tightly against the side faces of the window frame.

It is believed obvious I have provided a room cooler assembly for mounting in a window opening that is substantially self-contained, economical to manufacture and easily installed in window openings to positively hold the room cooler in position without auxiliary fastening devices.

What I claim and desire to secure by Letters Patent is:

1. A room air conditioner for mounting in a window opening comprising, a shell containing air cooling and circulation equipment, open-ended trackway housings fixed on the shell and extending transversely thereof, extension frames each having a vertical member arranged at the sides of the shell with legs slidable in the trackway housings for movement of the extension frames toward and away from the shell, said legs having inwardly facing channels therein, an extensible member in each of the extension frames extending into and being slidable in the channels in the frame legs, said extensible members each having one end anchored substantially at the sides of the shell and the other end anchored relative to and adjacent the vertical member of the extension frames remotely of the shell whereby said extensible member is compressed in response to movement of the respective extension frames toward the shell and is extended in response to movement of the respective extension frame away from the shell to at all times close the space between the shell and vertical member and legs of the extension frames, resilient means in the channels of the extension frame legs and engaging the extensible members to form a weathertight seal therewith, resilient sealing strips on the shell and extension frames for making a weathertight mounting in the window opening, a worm gear rotatably mounted in one of the trackway housings, a worm meshing with the worm gear for rotating same in response to rotation of said worm, means operatively connecting the worm gear with the extension frames whereby rotation of the worm gear effects movement of the extension frames relative to the shell, and means removably engageable with the worm for rotating the worm and worm gear for moving the extension frames relative to the shell.

2. A room air conditioner for mounting in a window opening comprising, a shell containing air cooling and circulation equipment, open-ended trackway housings fixed on the upper and lower portions of the shell and extending transversely thereof, said trackway housing on the lower portion of the shell being adapted to rest on a window ledge whereby one end of the shell extends from the window opening into a room to be cooled and the other end of said shell extends exteriorly of the said window opening, extension frames each having a vertical member arranged at the sides of the shell with legs slidable in the trackway housings for movement of the extension frames toward and away from the shell said frame legs having inwardly facing channels therein, an extensible member in each of the extension frames and having end portions secured to the shell and to the vertical member of the extension frames remotely of the shell respectively, said extensible members having a plurality of vertical folds therein defining a plurality of vertically extending panel portions, each of said panel portions being so formed at its edges as to embrace with the edges of the adjoining panel portions, vertically extending strips in the panel portions providing vertical rigidity to the panel portions, said panel portions extending into and being slidable in the channels in the legs whereby the extensible panel member is folded in response to movement of the respective extension frame toward the shell and is extended in response to movement of the respective extension frame away from the shell and thereby at all times closes the space defined by the shell and extension frame, resilient means in the channels and engaging the panel portions to retain same in selected position and form a substantially weathertight seal therewith, a worm gear rotatably mounted in one of the trackway housings, a worm meshing with the worm gear for rotating same in response to rotation of said worm, and means operatively connecting the worm gear with the extension frames whereby rotation of the worm gear effects movement of the extension frames relative to the shell.

3. A room air conditioner for mounting in a window opening beneath the lower sash of a vertically movable window comprising, a shell containing refrigeration equipment, fans, filters and the like for cooling and circulating air, open-ended trackway housings fixed on the upper and lower portions of the shell and extending transversely thereof, said trackway housing on the lower portion of the shell being adapted to rest on a window ledge below the lower sash of a vertically movable window with the trackway on the upper portion below said lower sash whereby one end of the shell extends from the window opening into a room to be cooled and the other end of said shell extends exteriorly of said window opening, extension frames each having a vertical member arranged at the sides of the shell with legs slidable in the trackway housings for movement of the extension frames toward and away from the shell, said frame legs having inwardly facing channels therein, an extensible member in each of the extension frames and having end portions secured to the shell and to the vertical member of the extension frames remotely of the shell respectively, said extensible members having a plurality of vertical folds therein defining a plurality of vertically extending panel portions, each of said panel portions being so formed at its edges as to embrace with the edges of the adjoining panel portions, vertically extending strips in the panel portions providing vertical rigidity to the panel portions, said panel portions extending into and being slidable in the channels in the legs whereby the extensible panel member is folded in response to movement of the respective extension frame toward the shell and is extended in response to movement of the respective extension frame away from the shell and thereby at all times closes the space defined by the shell and extension frame, resilient means in the channels of the extension frame legs forming a weathertight engagement of the extensible members and the legs of the extension frames, a worm gear rotatably mounted in one of the trackway housings, a worm meshing with the worm gear for rotating same in response to rotation of said worm, means operatively connecting the worm gear with the extension frames whereby rotation of the worm gear effects movement of the extension frames relative to the shell, and means removably engageable with the worm for rotating the worm and worm gear for moving the extension frames relative to the shell.

4. A room air conditioner for mounting in a window opening beneath the lower sash of a vertically movable window comprising, a shell containing refrigeration equipment, fans, filters and the like for cooling and circulating air, open-ended trackway housings fixed on the upper and lower portions of the shell and extending transversely thereof, said trackway housing on the lower portion of the shell being adapted to rest on a window ledge below the lower sash of a vertically movable window with the trackway on the upper portion below said lower sash whereby one end of the shell extends from the window opening into a room to be cooled and the other end of said shell extends exteriorly of said window opening, extension frames each having a vertical member arranged at the sides of the shell with legs slidable in the trackway housings for movement of the extension frames toward and away from the shell, said legs having inwardly facing channels therein, extensible sheets in the extension frames

having opposite edges engaging the legs of said frames and one end portion anchored substantially at the side of the shell, a roller rotatably mounted in each of the extension frames adjacent the vertical members thereof with the other end portions of the sheet secured to and wound on said roller, resilient means having engagement with the respective extension frame and roller for rotating the roller and winding the sheet thereon, relatively rigid means extending transversely of the sheet to provide vertical rigidity thereto, said extension sheets extending into and being slidable in the channels of the extension frame legs, resilient means in the channels of the legs of the extension frames a weathertight engagement with the extensible sheet, resilient sealing strips on the trackway housings and extension frames for making a weathertight mounting in the window opening, a worm gear rotatably mounted in one of the trackway housings, a worm meshing with the worm gear for rotating same in response to rotation of said worm, means operatively connecting the worm gear with the extension frames whereby rotation of the worm gear effects movement of the extension frames relative to the shell, and means removably engageable with the worm for rotating the worm and worm gear for moving the extension frames relative to the shell.

5. A room air conditioner for mounting in a window opening comprising, a shell container air cooling and circulation equipment, open-ended trackway housings fixed on the shell and extending transversely thereof, extension frames each having a vertical member arranged at the sides of the shell with legs slidable in the trackway housings for movement of the extension frames toward and away from the shell, an extensible panel member in each of the extension frames and having end portions secured to the shell and to the vertical member of the extension frames remotely of the shell respectively whereby said extensible panel members are compressed in response to movement of the respective extension frames toward the shell and are extended in response to movement of the respective extension frames away from the shell, resilient means engaging the extension frames and extensible panel members to form a substantially weathertight seal therebetween, arms movably mounted in the trackway housings, means having operative engagement with the arms for moving same in the trackway housings, fingers on the arms normally disengaged from the extension frame guide members, and cam means fixed in the trackway housings and engageable by the arms in response to movement of said arms in the trackway housings toward the extension frames for moving the fingers into operative engagement with the guide members whereby further movement of the arms effects movement of the extension frames away from the shell.

6. A room air conditioner for mounting in a window opening beneath the lower sash of a vertically movable window comprising, a shell containing refrigeration equipment, fans, filters and the like for cooling and circulating air, open-ended trackway housings fixed on the upper and lower portions of the shell and extending transversely thereof, said trackway housing on the lower portion of the shell being adapted to rest on a window ledge below the lower sash of a vertically movable window with the trackway on the upper portion below said lower sash whereby one end of the shell extends from the window opening into a room to be cooled and the other end of said shell extends exteriorly of said window opening, extension frames each having a vertical member arranged at the sides of the shell with legs slidable in the trackway housings for movement of the extension frames toward and away from the shell, said extension frame legs having inwardly facing channels therein, an extensible member in each of the extension frames and having end portions

secured to the shell and to the vertical member of the extension frames remotely of the shell respectively, said extensible members having a plurality of vertical folds therein defining a plurality of vertically extending panel portions, each of said panel portions being so formed at its edges as to embrace with the edges of the adjoining panel portions, vertically extending strips in the panel portions providing vertical rigidity to the panel portions, said extensible members extending into and being slidable in the channels of the extension frame legs, resilient means in the channels of the extension frame legs and having weathertight engagement with the extensible members, gear means rotatably mounted in one of the trackway housings, screw means operatively connected with the gear means and extending from the gear means toward the open ends of the trackway housings, arms having threaded connection with the screw means and movable in the trackway housings in response to turning of the screw means, fingers on the arms normally disengaged from the extension frame leg members, cam means fixed in the trackway housings and engageable by the arms in response to movement of said arms in the trackway housings for moving the fingers into operative engagement with the leg members whereby further movement of the arms effects movement of the extension frames away from the shell, and means removably engageable with the gear means for rotating the gear means and screw means for moving the extension frames relative to the shell.

7. A room air conditioner for mounting in a window opening comprising, a shell containing air cooling and circulation equipment and having trackway housings thereon and extending transversely thereof, extension members at the sides of the shell each having a vertical member at the ends thereof remote from the shell and having elongate guide members slidable in the trackway housings for movement of the extension members toward and away from the sides of the window frame, said elongate guide members having spaced legs with inwardly facing channels in said guide members between said legs, extensible panel members in the extension members each having one end portion anchored substantially at the side of the shell and another end portion anchored relative to and adjacent to the respective vertical members at the end of the extension members remotely of the shell whereby said extensible panel members are compressed in response to movement of the respective extension members toward the shell and are extended in response to movement of the respective extension members away from the shell and thereby at all times close the space defined by the shell and extension members, said extensible panel members extending into the channels in the elongate guide members, resilient blocks in the channels between one leg thereof and the adjacent side of the panel portions extending into said channels to retain the panels in flattened position against the other leg of the channels and form a substantially weathertight seal between said panels and legs, and means on the shell engaged with the extension members for holding said extension members in tight engagement with sides of a window opening.

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