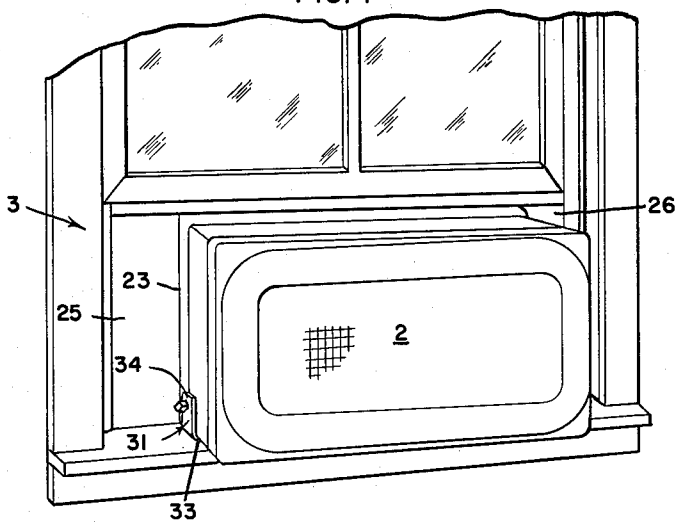
June 25, 1963 W. L. McGRATH ETAL 3,094,916

SELF-CONTAINED AIR CONDITIONING UNIT INSTALLATIONS

Original Filed Jan. 5, 1954 4 Sheets-Sheet 1

FIG. 1



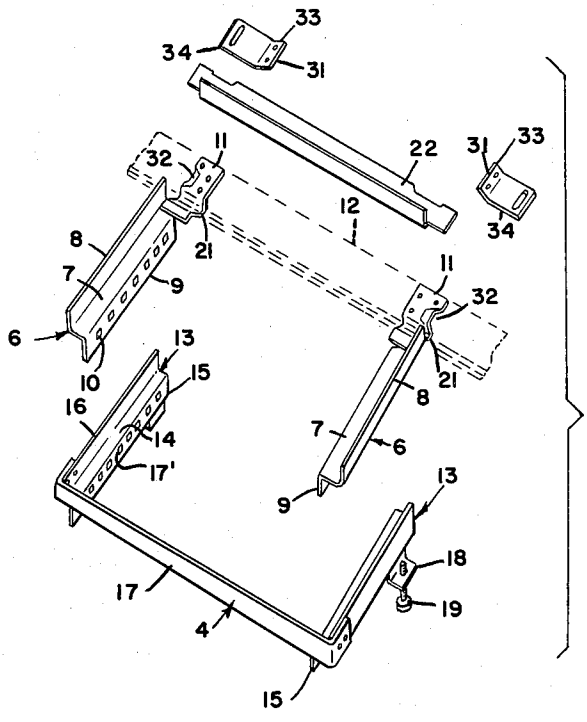


FIG. 2

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FIG. 3

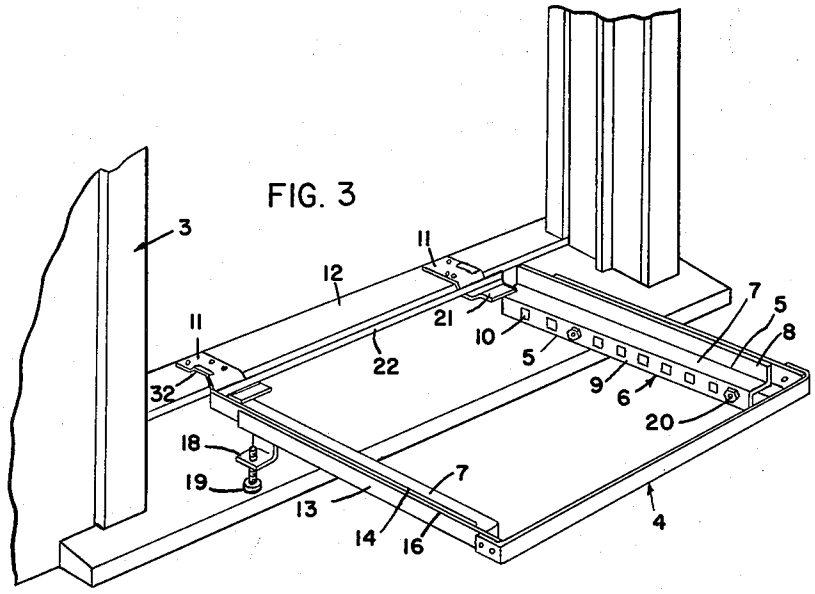
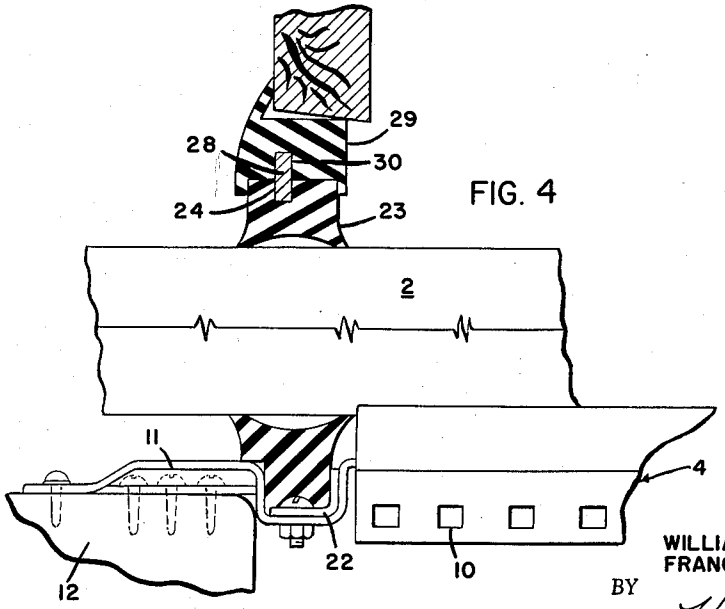


FIG. 4



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SELF-CONTAINED AIR CONDITIONING UNIT INSTALLATIONS

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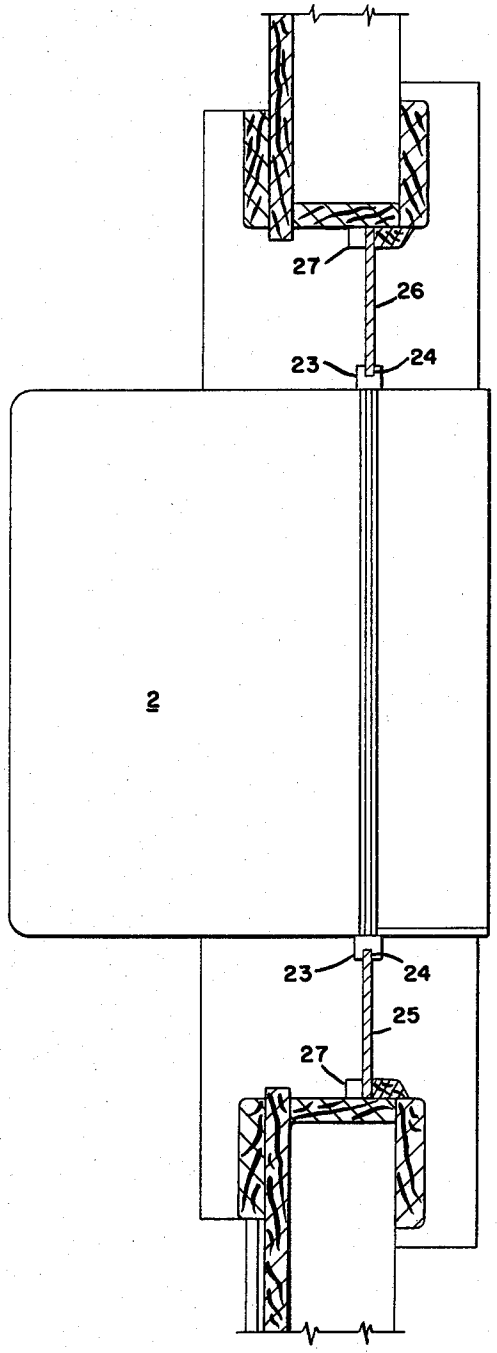


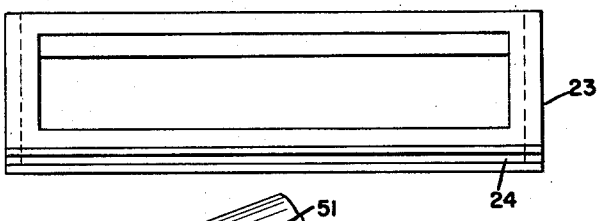
FIG. 5

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FIG. 6



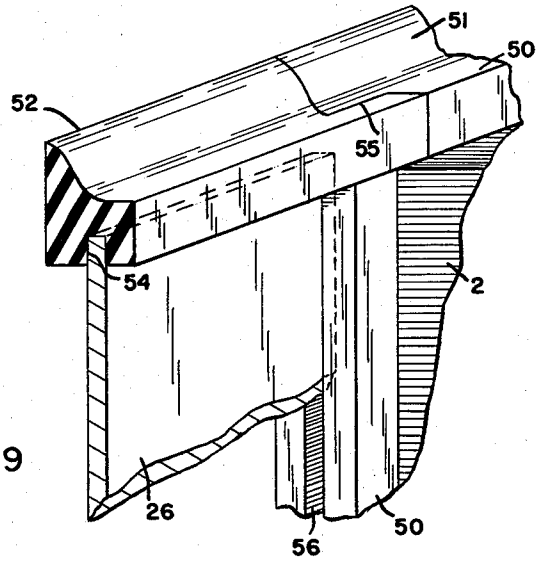


FIG. 9

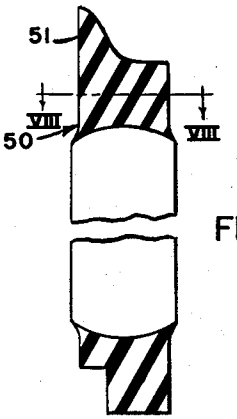


FIG. 7

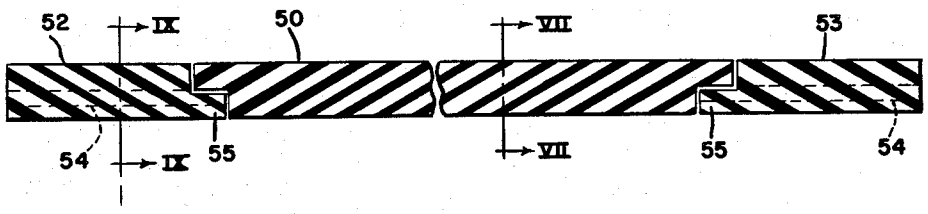


FIG. 8

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United States Patent Office 3,094,916 Patented June 25, 1963

3,094,916

SELF-CONTAINED AIR-CONDITIONING UNIT INSTALLATIONS

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Original application Jan. 5, 1954, Ser. No. 402,364, now Patent No. 2,889,764, dated June 9, 1959. Divided and this application Apr. 10, 1959, Ser. No. 805,590

3 Claims. (Cl. 98—94)

This invention is a division of our application, Serial Number 402,364, filed January 5, 1954, now Patent No. 2,889,764, entitled Self-Contained Air Conditioning Unit Installations and relates to self-contained air conditioning units, and more particularly, to mechanism for maintaining the unit in place within a window frame or other opening within a building.

The chief object of the present invention is to provide support members for a self-contained air conditioning unit installed within a building opening such as a window frame.

An object of the invention is to provide support means for a self-contained air conditioning unit installed within a window frame which permits the unit to be installed in such a manner that any desired length of the unit may protrude from the window frame.

A further object is to provide support means for a window unit placed within a window frame, which includes an adjustable cradle or track member for supporting the portion of the unit protruding from the window frame. Other objects of the invention will be readily perceived from the following description.

This invention relates to a cradle member for supporting a self-contained air conditioning unit in a building opening which comprises, in combination, a support member including two horizontally extending arms, each arm having a longitudinally extending flange adapted to be secured to a portion of the window frame, a support for the unit and a gasket receiving recess placed between the flange and the support; a second support member including two horizontally extending arms and a connecting member, and means for removably attaching the second member to the first member.

This invention further relates to a self-contained air conditioning unit placed within a building opening in combination with support means for the unit which comprises a cradle member including two arms protruding exteriorly of the opening, each arm terminating in a horizontally extending flange secured to a portion of the opening wall, each arm including a support for the unit and having a gasket receiving recess placed between the support and the flange; and a second cradle member engaging the first cradle member and extending therefrom to increase the length of the unit support; the cradle members being adapted to be connected at various points whereby the length of the support may be adjusted in accordance with the portion of the unit protruding from the opening; said second cradle member having a flange substantially perpendicular thereto extending about its rear and at least a portion of its side receiving the unit therein to prevent sideward and outward movement of the unit.

The attached drawings illustrate a preferred embodiment of the invention, in which

FIGURE 1 is a view in elevation of the self-contained air conditioning unit in place;

FIGURE 2 is an exploded view of the elements of the support;

FIGURE 3 is an isometric view showing the cradle members of the support installed at the building opening;

FIGURE 4 is a sectional view showing the self-contained air conditioning unit in place within the window opening;

FIG. 5 is a sectional view illustrating the manner of installation of the wing panels;

FIGURE 6 is an isometric view of the rectangular ring gasket of FIGURES 1 and 5;

FIGURE 7 is a vertical sectional view of a modified gasket; and

FIGURE 8 is a horizontal sectional view of the gasket shown in FIGURE 7.

FIGURE 9 is an isometric sectional view illustrating the installation of the gasket shown in FIGURE 8.

Referring to the attached drawings, there is shown a self-contained air conditioning unit 2 supported in place within a building opening such as a window frame 3. It will be observed that substantially the complete length of the unit 2 extends exteriorly of the frame 3. The casing of the unit is box-like to permit the unit to be placed in any desired position in the building opening.

The air conditioning unit is held in place within the opening by means of a support designated generally at 4. Support 4 prevents outward and sideward movement of the unit 2 when it is installed in desired position.

Support 4 includes a cradle or track member 5. Cradle 5 includes two horizontally extending arms 6, each arm including a support portion 7, a flange 8 extending substantially perpendicular to the support portion at one side thereof, and serving to prevent sideward movement of the unit when it is installed, and a second flange 9 extending downward from the opposite side of support 7 in a substantially perpendicular direction. Flange 9 has a plurality of openings 10 formed therein for a purpose hereinafter described. Each arm 6 has a horizontally extending flange member 11 attached thereto and adapted to be secured to the stool 12 of the window frame.

The support includes a second cradle having two horizontally extending arms 13, each arm including a support 14, a flange 15 extending downward from the support 14 in a substantially perpendicular direction, and a second flange 16 extending upward at the opposite side of support 14 in a substantially perpendicular direction. Flanges 16 of the arms 13 are connected by a member 17 which forms, in effect, a continuation of flanges 16. Openings 17' are provided in flanges 15 for a purpose hereinafter described. The arms 13 are provided with members 18 adapted to cooperate with leveling means 19. In this construction, the leveling means are in effect attached to the unit so that an unsafe installation cannot be made.

When the support or cradle is placed in position at the window opening, supports 7 of arms 6 may rest on supports 14 of arms 13. The arms 6 and 13 are attached to each other by fastening means 20. Since a plurality of openings are provided in the flanges 9 and 15, it will be appreciated that various openings may be aligned with each other to permit the cradle to be adjusted in length, depending upon the portion of the unit protruding exteriorly of the opening.

Gasket receiving recesses 21 are formed in the cradle between arms 6 and flange members 11 for a purpose hereinafter described. To strengthen the cradle member and to provide support for a gasket in recess 21, a tie angle 22 is provided connecting the arms 6; this tie angle forms the rear wall of the gasket recess 21.

Considering the installation of the self-contained air conditioning unit, assuming the cradle 5 has been installed in desired position, extending from the window frame with the flange members 11 attached to the stool 12 of the window frame, the air conditioning unit 2 is supported on the cradle 5 with a desired length of the unit protruding exteriorly of the window frame. It will be appreciated any desired length of the air conditioning

unit may extend from the opening since cradle **5** is adjustable to accommodate any desired portion of the air conditioning unit exteriorly of the window opening. The flanges **8** and **16** of the arms **6** and **13** of cradle **5** prevent sideward movement of the unit when it is in desired position. The connecting member **17** prevents further outward movement of the unit.

A rectangular ring gasket **23** (refer to FIGURE 6) is disposed about unit **2**. Ring gasket **23** may be disposed at any desired place longitudinally of the unit. Gasket **23** preferably includes a slot **24** within the upper and side portions thereof for a purpose hereinafter described. The gasket **23** fits within recess **21** to seal the lower portion of the unit and is compressed by the weight of unit **2**, thus preventing air entering the interior of the building structure between the stool of the window frame and the bottom of the self-contained air conditioning unit.

After the gasket has been disposed about the unit and the unit placed in desired position on the cradle, wing panels **25** and **26** are placed in position on opposite sides of the unit (refer to FIGURE 5) to close the space between the sides of the window frame and the unit. The vertical edge of the wing panel fits within the slot **24** along the side of the ring gasket **23**. Suitable spacing and support members **27** are provided to hold the wing panels in place adjacent to the window frame.

If desired, a key member **28**, as shown in FIGURE 4, is inserted in the slot **24** of gasket **23** above the top of unit **2**. A rubber seal strip **29** or gasket extends along the window opening and has an upper protruding portion adapted to fit against the inner side of the window and a lower slot **30** therein adapted to receive key **28**, if desired, and the upper edges of wing panels **25** and **26**. The window is then lowered to compress the seal strip, thus securely sealing the space between the window and the unit and its wing panels.

As shown in FIGURES 7 and 8, the rectangular ring gasket and the seal strip may be formed integrally to provide sealing gasket **50**. The upper portion of gasket **50** terminates in a tip-like portion **51** adapted to fit against the inner edge of the window when the unit and gasket are in place in the installation. The side slots (not shown) are retained to receive the vertical edges of the wing panels **25**, **26** which are shown in FIGURES 1 and 5. Companion gaskets **52**, **53** coextend the upper corners of gasket **50** and fit over the upper edges of respective wing panels **25**, **26** receiving such edges in slots **54** therein. Any suitable form of joint **55** (refer to FIGURES 8 and 9) may be provided between gasket **50** and companion gaskets **52**, **53**. The cooperation of the ring gasket with associated companion gaskets and wing panels is best shown in FIGURE 9 where one of the wing panels **26** is represented engaging gasket **52** along its upper edge, within slot **54**, and gasket **50** along its vertical edge, within slot **56**, to form a tight seal thereabout. It will be appreciated this construction obviates the rubber strip and key construction shown in FIGURE 4.

Preferably, stop brackets **31** are provided to prevent lateral movement of the unit **2** when it is disposed in position. The flange members **11** of arms **6** of cradle **5** are provided with embossed portions **32** extending from the edges thereof so as to provide space between the flanges and the stool **12** of the window frame. Brackets **31** include a horizontally extending flange **33** adapted to fit within the space between portions **32** and the stool, and an upwardly extending flange **34** adapted to be attached to the unit **2**.

Preferably, the unit **2** is disposed in position in such manner that it tilts slightly toward the exterior of the building. This aids in removing the condensate from the evaporator section of the unit to the condenser section of the unit. Leveling means **19** permit the cradle **5** to be adjusted so as to provide the desired pitch.

The present invention provides an air conditioning unit installation which may be made rapidly and economically. The installation prevents seepage of exterior air through the building opening about the installed unit. The present invention provides secure support regardless of the length of the unit extending without the building structure. If desired, exterior strap hangers or braces may additionally support the unit if the greater part of the unit is supported without the building. If the greater part of the unit is supported within the building, leg supports may be used. The hanger or brace construction permits a satisfactory installation to be obtained when the wall is so thin that it is undesirable to employ standard leveling screws. Any movement of the unit, when it is installed in desired position, is prevented by the support provided by the present invention. The installation may be made readily by unskilled workmen. A particular advantage of the construction rests in the fact that the unit can be pulled through the gasket; there is no requirement that the unit be placed in any particular position. A particular feature of this installation resides in the fact that seepage of outside air around the unit is prevented eliminating drafts and preventing sweating under summer conditions as well as maintaining capacity of the unit. The unit need not be removed during winter conditions for the seal prevents seepage or leakage of air through the opening.

While we have described a preferred embodiment of the invention, it will be understood the invention is not limited thereto since it may be otherwise embodied within the scope of the following claims.

We claim:

1. A substantially rectangular ring gasket adapted to surround an air conditioning unit when it is disposed in place in a window opening, said gasket having slots therein adapted to receive the edges of wing panels, the upper portion of the gasket having a protruding portion adapted to rest against a side of the window.

2. In combination with a self-contained air conditioning unit placed within a window opening, support means for the unit, a resilient, substantially rectangular gasket placed about the unit, the bottom portion of the gasket being compressed by the unit, the upper portion of the gasket terminating in a protruding section resting against one side of the window, wing panels placed on opposite sides of the unit closing the spaces between vertical portions of the window frame and the unit, and companion gaskets having slots therein receiving the upper edges of the wing panels, said companion gaskets interlocking with respective corners of the rectangular ring gasket.

3. A substantially rectangular ring gasket adapted to surround an air conditioning unit when it is disposed in place in a window opening, said gasket having slots therein adapted to receive the edges of wing panels, the upper portion of the gasket having a protruding portion adapted to rest against a side of the window, cooperating gasket members adjacent the upper corners of said ring gasket adapted to receive the upper edges of wing panels when the gasket is in place in a building opening, said ring gasket and the cooperating gasket members being provided with locking portions to form secure joints between the members and the gasket.

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