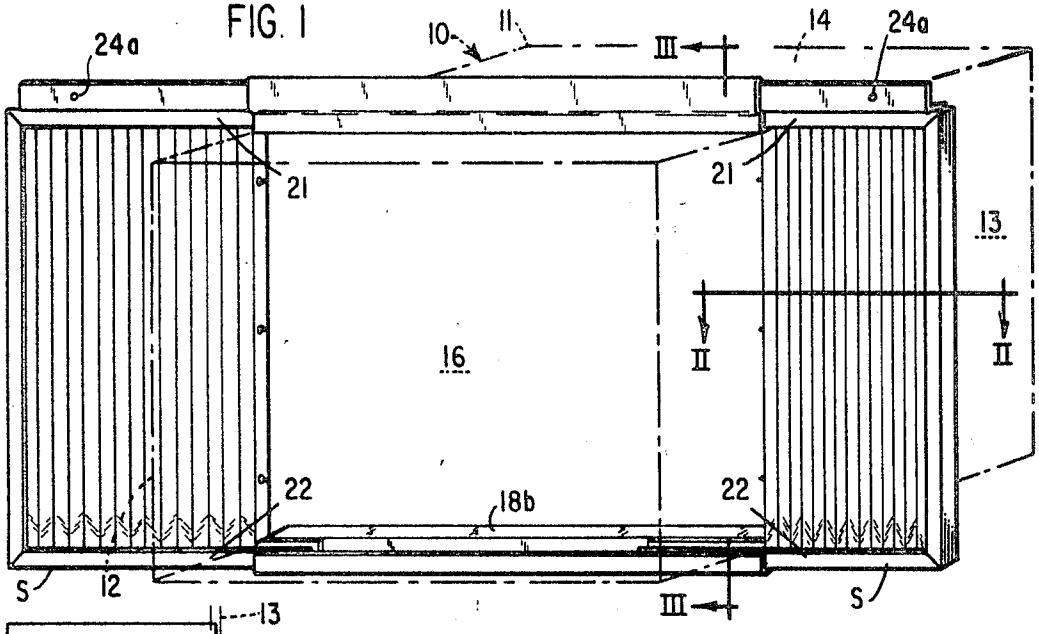
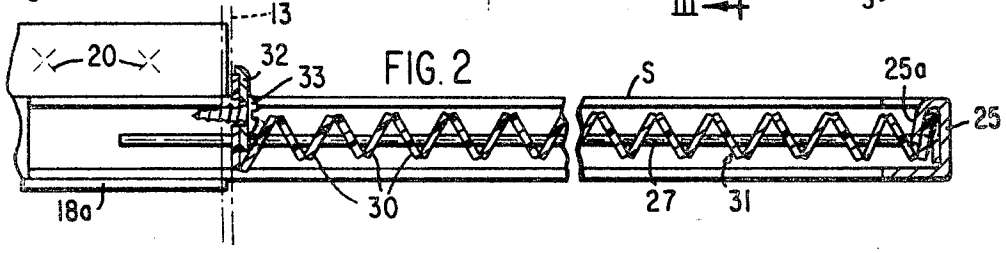
Aug. 12, 1969 D. E. MacLEOD 3,460,458

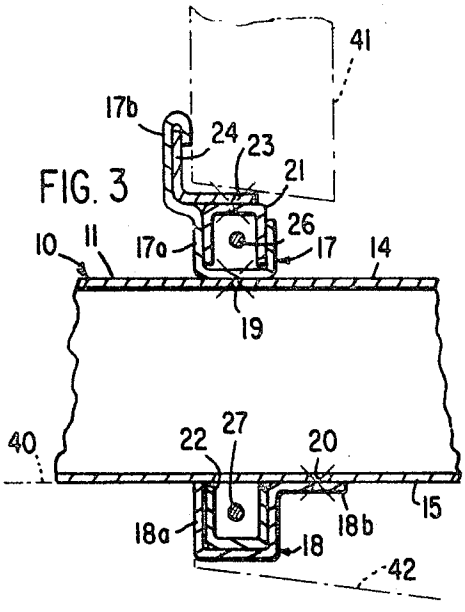
ROOM AIR-CONDITIONING UNIT WITH EXTENSIBLE FILLER PANELS

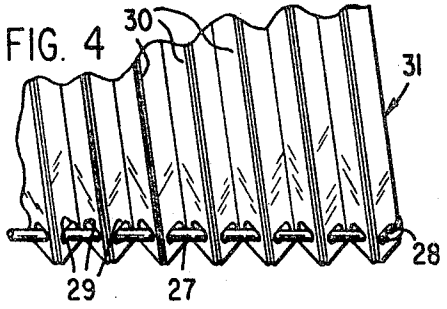
Filed April 30, 1968

FIG. 1









INVENTOR.
DAVID E. MAC LEOD.
BY B. F. Claeboe.
ATTORNEY.

United States Patent Office 3,460,458 Patented Aug. 12, 1969

3,460,458

ROOM AIR-CONDITIONING UNIT WITH EXTENSIBLE FILLER PANELS

David E. Mac Leod, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Apr. 30, 1968, Ser. No. 725,463
Int. Cl. F24f 1/02
U.S. Cl. 98—94 1 Claim

ABSTRACT OF THE DISCLOSURE

A room air conditioner provided at opposite sides thereof with pleated filler panels captivated in a frame structure slidably mounted in supporting means affixed to the conditioner casing, the frame structure having attached thereto rod means received in apertures in the panels, whereby disengagement of the panels from the frame structure is prevented.

BACKGROUND OF THE INVENTION

It is known in the art to equip room air-conditioning units with side panel structures generally taking the form of telescoping sheet metal sections or plastic accordion type extensions whereby a unit of a predetermined size is readily adaptable to window openings of differing dimensions. In the latter arrangement, the upper and lower portions of the panel sections are frictionally received in channel members; however, by reason of air pressures and normal slidable movement of the pleated panels in the supporting channel structure, they are subject to becoming detached therefrom.

These disadvantages of the prior art structures are avoided herein by provision of a generally U-shaped frame structure slidably received in mating support or guide means on the air-conditioner unit, the U-shaped frame along the top and bottom portions thereof housing rod means secured thereto at one end and providing support for marginally apertured curtains or pleated panels longitudinally adjustable upon the rod means, and which when properly positioned, are then secured to opposed side walls of the casing of the air-conditioner.

SUMMARY OF THE INVENTION

The present invention is directed to a side curtain assembly for a room air-conditioning unit comprised of a generally U-shaped channel member having interiorly secured thereto, adjacent its top and bottom, rod members receiving thereon pleated slidably adjustable thermoplastic panels. The U-shaped frame along its top and bottom portions is longitudinally adjustable within complementarily shaped channel members welded or otherwise secured to the top and bottom walls of the air-conditioner casing. One end of the curtain is encapsulated in the U-shaped frame member, and when the channel assembly is in the desired position whereby the window opening is enclosed by the air-conditioner and curtain assembly, the pleated panel portion at the opposite end thereof is secured by screw means or the like to each of the side walls of the casing. By reason of provision of the fixed rod means and apertured curtain, it is essentially impossible that the curtain be blown or otherwise detached from its supporting guide structure.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a perspective view of the curtain structure of this invention showing the air-conditioning unit in phantom;

FIGURE 2 is a horizontal sectional view taken substantially along the line II—II of FIGURE 1;

FIGURE 3 is a vertical sectional view taken substantially along the line III—III of FIGURE 1, and also showing in phantom illustrative sash and sill structure; and

FIGURE 4 is a fragmentary perspective view of an exemplary form of curtain for use in the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and first to FIGURES 1 and 3 thereof, an air-conditioning unit of conventional construction is designated in its entirety by the numeral **10** and is comprised of a casing **11** provided with opposed side walls **12** and **13**, top and bottom walls **14** and **15**, a front opening **16** and a rear opening (not shown).

The self-contained air-conditioner unit includes, as is well known in the art, a compressor, a condenser, expansion means and an evaporator connected in the usual manner to form a refrigeration system. The unit is disposed in a window opening so that the condenser is in communication with ambient air and the evaporator is in communication with the room air to be treated. Suitable fan means are provided within the casing **11** to pass air over the evaporator and condenser, respectively. Since the air-conditioning unit is of known construction, it is believed unnecessary to further describe the mechanism thereof.

Referring now also to FIGURE 3 of the drawings, the casing **11** of the unit **10** has welded or otherwise secured to its top and bottom walls **14** and **15** longitudinally extending channel members designated generally as **17** and **18**. The top channel member **17** is shaped to provide a U-shaped portion **17***a* integral with an upwardly swept hook portion **17***b*. As is indicated in FIGURE 3, a preferred mode of attachment of the upper channel member **17** to the casing top wall **14** is by spot welding designated by the X at **19**.

The bottom channel member **18** is equipped with a generally U-shaped portion **18***a* with which is integrally associated an outwardly extending leg portion **18***b* welded as at **20** to the casing bottom wall **15**, or secured thereto in any other suitable manner.

As was stated in the introductory portion to the specification, a feature of the present invention is the provision of an extensible curtain structure which under variable pressure conditions between the inside of the room and the exterior of the building defies accidental disengagement of the curtains themselves from the mounting frame, and as well, are not subject to detachment of the curtains from their frames during slidable adjustable movement of the frames in the supporting channels on the top and bottom walls of the conditioner casing. These novel effects are accomplished by provision of a pair of generally U-shaped frame members **21** and **22** slidably receivable in the top and bottom channel members **17** and **18**, respectively, indicated earlier as rigidly attached to the top and bottom walls **14** and **15** of the casing **11**. As appears best in FIGURE 3, the top frame member **21** has welded as at **23** an angle bracket **24** which is in mating relation with the hook portion **17***b* of the top channel member **17**.

As appears best in FIGURES 1 and 2, the frame structure which supports the filler panels is generally U-shaped when viewed in elevation, and accordingly includes an end wall **25**. As is manifest from FIGURE 2, the frame structure is open at its opposite end. The frame structure, each of which is designated in its entirety by the legend S, houses in its channel portions **21** and **22** longitudinally extending rod members **26** and **27**, each of which is of identical construction and has formed thereon at one end as turned-over portion **28** shown best in FIGURES 2 and 4.

The rod members **26** and **27** each pass through apertures or perforations **29** formed adjacent the top and bottom marginal portions of each of the pleats **30** provided in curtain **31**. The rods extend completely through each of the curtains **31**, and as appears in FIGURE 2, are of greater length than the curtain when the curtain is completely extended as shown. The end wall **25** of the generally U-shaped frame structure is turned over as at **25***a* and thus grippingly engages the first pleat of the curtain **31** to anchor the outer end of the curtain to the frame structure S. The opposite end of the curtain **31** is secured to the opposed side walls **12** and **13** of the casing **11** by means of an upstanding strip **32** which grips the opposite end pleat of the curtain and anchors the same to the casing side walls by cooperation with screw means or the like **33**.

The curtain **31** may be made from any decorative opaque thermoplastic material, and at present a preferred material is an ethylene-vinyl acetate copolymer. Polyesters are also deemed to be suitable, and in this regard, the principal requirements for the curtain material are that it be capable of accepting a permanent pleat, be weather resistant, and be of sufficient durability to withstand frequent accordion-like action.

In the operation of the novel extensible filler panel structure of this invention, the air-conditioner unit **10** is located in a window opening, and when properly positioned therein upon the stool indicated in the phantom line at **40** which connects with a sill **42**, the frame structure S is slidably moved to the desired position so that in combination with the width of the air-conditioner casing **11**, the window opening is completely filled. The window sash indicated in phantom at **41** is then lowered upon the frame structure S and supporting channel member **17** to the position shown in FIGURE 3. The frame structure is then desirably secured to the sash **41** by means of screws or the like which pass through openings **24***a* of the upstanding portion **24** secured to the inverted channel member **21**.

It is believed apparent from the foregoing that applicant has provided a novel curtain assembly which features ease of installation and avoids any possibility of escape of the curtain from the frame structure. The rod members **26** or **27** can be attached to the end wall **25** of the frame structure other than by means of the turned-over end **28**. As for example, the rods may be screwed or otherwise fastened to the end wall **25** by passing the rod completely therethrough. These changes and other variations in the invention can, of course, be effected without departing from the spirit of the invention or the scope of the subjoined claim.

I claim:

1. A room air-conditioning unit adapted to be mounted in a window opening and having a casing provided with top and bottom walls and opposed side walls the distance between which is less than the width of the window opening, the improvement which comprises first and second track members extending longitudinally along the top and bottom walls of said casing, respectively, said first track member having a body portion substantially U-shaped in cross section fixedly secured to said casing top wall and an upwardly directed hook portion integral with said body portion, said second track member including a body portion generally U-shaped in cross section and an outwardly disposed leg portion integral with said body portion and fixedly secured to said casing bottom wall, a pair of frame members generally U-shaped when viewed in elevation and also in cross section frictionally and slidably received in said body portions of said first and second track members, a bracket member having a generally right angular shape affixed to said body portion of said first track member and including an upstanding section received in said hook portion for guidance thereby during slidable movement of said frame members in said first track member, a pleated curtain received in each of said frame members and having apertures in the pleats thereof adjacent their upper and lower marginal edges, and longitudinally extending rod members received in said apertures, one pleat of each of said curtains and one end of said rod members adjacent to said one pleat being clampingly engaged by each of said frame members and a pleat at the opposite end of each of said curtains being attached to each of the opposed side walls of said casing, the opposite end of each of said rod members extending through and being received in each of said opposed side walls of said casing, whereby detachment of said curtains from said frame members is prevented during movement of said frame members in said track members and when pressure differences on opposite sides of said curtains exist.

References Cited

UNITED STATES PATENTS

2,202,358	5/1940	Stone	160—84 X
2,781,717	2/1957	Hord.	
3,030,873	4/1962	Metcalfe.	
3,111,076	11/1963	Martin et al.	160—84 X

PETER M. CAUN, Primary Examiner

U.S. Cl. X.R.

62—262; 160—84