June 18, 1968 R. P. PERRY 3,388,520

AIR CONDITIONER CLOSURE PANEL

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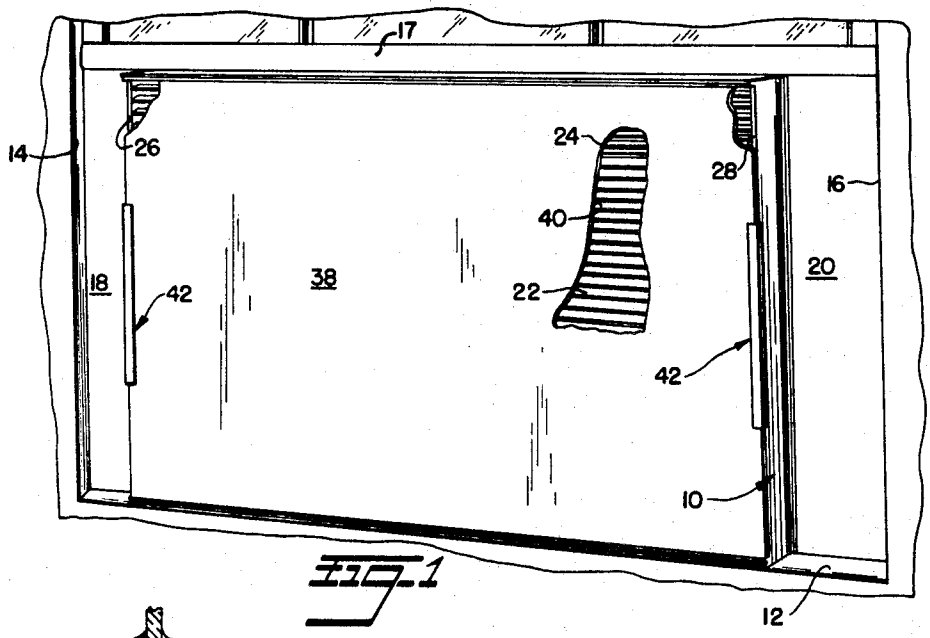


FIG. 1

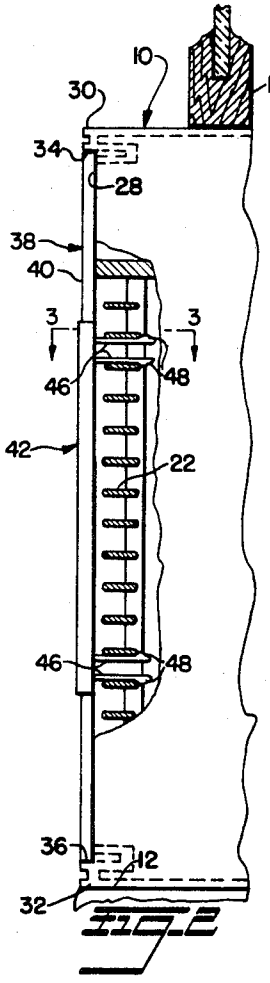


FIG. 2

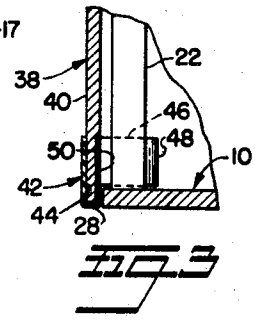


FIG. 3

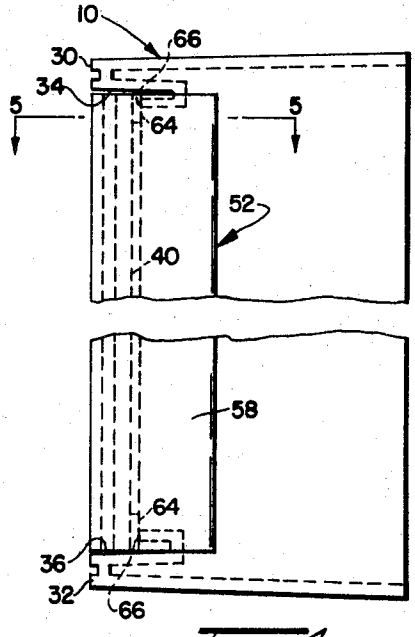


FIG. 4

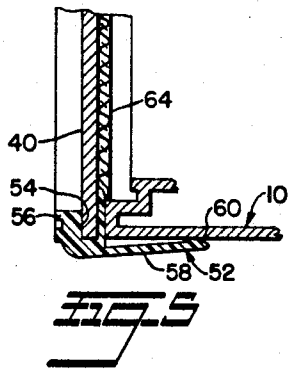


FIG. 5

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AIR CONDITIONER CLOSURE PANEL

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ABSTRACT OF THE DISCLOSURE

A removable winter cover for the front of a window air conditioner, the cover being detachably secured to the air conditioner by spring clips.

This invention relates to air conditioners and more particularly to improved apparatus for closing and sealing air conditioners, particularly window units, during periods of non-use.

Most, if not all, window air conditioners incorporate passages for supplying fresh air from the outside atmosphere to the room in which the air conditioners are installed. It is difficult to assure complete closing and sealing of such passages when they are not in use. All air conditioners also permit a certain amount of air leakage through them when they are not in use because of the imperfect sealing between the evaporator and condenser air circuits which are in communication, respectively, with the interior of the room and the outdoor atmosphere. This air leakage during the winter months increases heating costs and is a source of discomfort.

The adjustable louvers provided in most air conditioners cannot be closed tightly enough to provide an effective seal to prevent the objectionable cold drafts and heating losses. Also, despite improvements in design, air conditioners are to some extent unsightly and their complete or partial concealment is highly desirable during extended periods of non-use.

With these considerations in mind it is a principal purpose and object of the invention to provide improved devices for sealing and closing air conditioner units during periods of non-use.

It is a further object of the present invention to provide improved air conditioner closure units which effectively seal the entire air conditioner, which may be quickly and easily installed or removed as desired, and which are of inexpensive construction.

Additional objects and advantages will become apparent as the description proceeds in connection with the accompanying drawings in which:

FIGURE 1 is a perspective view partially broken away illustrating a typical installation of one embodiment of the present invention;

FIGURE 2 is a side elevation of the unit shown in FIGURE 1 also with parts broken away to show details;

FIGURE 3 is an enlarged fragmentary horizontal section taken along line 3—3 of FIGURE 2;

FIGURE 4 is a side elevation of another embodiment of the present invention; and

FIGURE 5 is an enlarged fragmentary horizontal section taken along 5—5 of FIGURE 4.

Referring now more particularly to FIGURES 1–3 of the drawings, FIGURE 1 illustrates a typical installation of a window air conditioner the removable front panel of which is indicated generally at **10**. The air conditioner is installed in a window opening formed by a sill member **12** and window side members **14** and **16**. In accordance with conventional practice the bottom rail **17** of the window sash rests against the top of the air conditioner. The spaces between the sides of the air conditioner cabinet and the side window rails **14** and **16** are closed and sealed by panels **18** and **20**, respectively.

The air conditioner and its front panel assembly **10** per se are of essentially conventional construction and the latter is provided with a set of horizontal fixed louvers **22** which extend horizontally across the unit from side to side forming an air intake opening. The air outlet section of the air conditioner is formed by a series of adjustable louvers **24** which extend horizontally across the unit above the louvers **22**. The front edges of the louvers are substantially flush with the aligned planar front surfaces **26** and **28** of the side walls of the air conditioner front panel. The upper and lower edges of the front opening of the air conditioner are formed by projecting portions **30** and **32** of the top and bottom walls, respectively, of the front panel assembly. These projecting portions have facing flat surfaces **34** and **36**, respectively.

The present invention provides in cooperation with the previously described air conditioner structure a sealing cover assembly indicated generally at **38** which is adapted to close and seal the entire front air conditioner opening. The assembly **38** comprises a flat panel **40** of pressed board, masonite, or the like, preferably carrying a decorative front cover of wood grained paper or veneer to enhance its appearance. The panel **40** is so dimensioned that its upper and lower edges are received with a sliding fit between the opposed surfaces **34** and **36** of the top and bottom walls of the air conditioner front panel and its end edges are substantially flush with the outer surfaces of the side walls of the air conditioner front panel.

The panel **40** is detachably secured in place by a pair of identical connectors **42** which are fabricated from one of a number of resilient plastics. These connectors comprise a channel **44**, the width of which is slightly less than the width of the panel **40**. Projecting from one face of the channel **44** are pairs of clips **46** provided with hook portions **48**, which, as best shown in FIGURE 2, are adapted to engage the rear edges of adjacent pairs of louvers **22**. The relative spacing of the clips **46** and the louvers **22** is such that when the unit is installed, the clips provide a resilient lock.

The connector assemblies **42** are installed on the opposite vertical edges of the panel **40** by sliding them over the end panel edges where they are frictionally held in place. As best shown in FIGURE 3 the rear surface of the panel **40** is provided with recesses **50** (one shown) in which the inner leg of the channel **44** is received so that the entire rear surface of the panel assembly including the connectors **42** is co-planar.

The front panel assembly may be installed by pushing it inwardly toward the body of the air conditioner until the clips **46** lock in place. When so installed the front cover provides a wind and leather tight seal completely covering the front opening of the air conditioner and at the same time substantially enhancing the appearance of the air conditioning unit. If desired, the panel may be provided with weather stripping around its edges to enhance its sealing properties. Ordinarily, however, this additional protection is not required. The front cover assembly may be removed by simply pulling it outwardly away from the air conditioner. Thus, the unit may be installed or removed in a matter of seconds without the use of any special tools or techniques.

FIGURES 4 and 5, to which detailed reference shall now be made, illustrate a modified form of the means for attaching the cover assembly to the air conditioner front panel **10**. In this form of the invention the connection is effected by connector strips indicated generally at **52** which extend along the full height of the edges of the panel **40**. As best shown in FIGURE 5 these connector strips **52**, which are preferably fabricated from a plastic having limited resilience, comprise a channel portion **54** adapted to frictionally grip the end edges of the panel **40**. A decorative ridge and groove connection **56** extends

forwardly from the channel portion **54** and a resilient locking finger **58** extends rearwardly from the channel **54**. The angle between the channel **54** and the finger **58** is somewhat less than 90° when the finger is relaxed. When installed the finger is yieldably deformed to provide tight frictional engagement between the parts. At its end the spring strip or finger **58** is provided with a locking projection **60** which enhances the frictional gripping action.

The front cover assembly is completed by the installation of upper and lower sealing strips **64** which extend across the top and bottom edges of the panel **40** and, when the unit is installed, sealingly engage the forwardly facing lips **66** which extend along the upper and lower margins of the front panel **10**.

As in the previously described embodiment, the front cover assembly may be installed by simply pushing it on to the front panel **10**. When the locking formations **60** engage the side edges of the panel, the panel is securely held in place. The locking engagement of the parts is sufficiently strong to prevent accidental dislodgment of the cover assembly but permits easy removal of the front panel assembly by pulling it away from its installed position.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claim are therefore intended to be embraced therein.

What is claimed and desired to be secured by Letters Patent is:

1. A front cover assembly for an air conditioner having air inlet and outlet openings peripherally bounded by wall structure including essentially flat end walls, said cover assembly comprising a flat imperforate panel having an area essentially equal to the combined area of said air inlet and air outlet openings, resilient connector assemblies extending along said panel at the ends thereof, said connector assemblies each having a channel frictionally gripping the adjacent edges of said panel and each connector having a resilient locking finger projecting from the plane of said panel, the inclcuded angle between said finger and the plane of said panel being less than 90°, the edges of said fingers remote from said panel releasably frictionally engaging said flat end walls thereby frictionally securing said panel to said air conditioner, said locking fingers extending substantially from top to bottom of said flat end walls and being arranged to permit installation or removal of said panel by essentially straight line motion toward and away from said air conditioner.

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