March 2, 1971 R. W. POND 3,566,565

ADJUSTABLE WINDOW FRAME

Filed Dec. 4, 1968

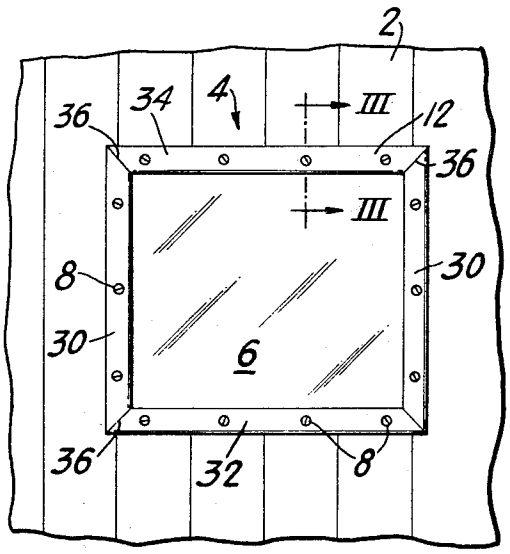


FIG. 1

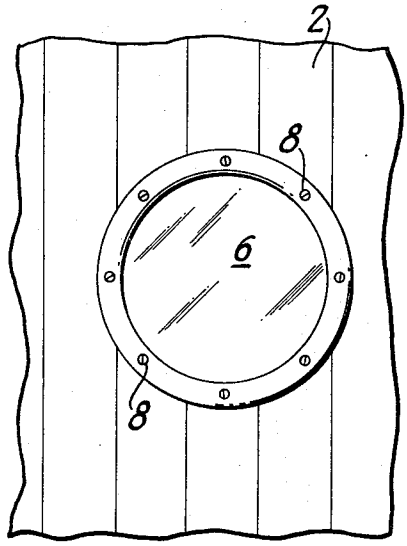


FIG. 2

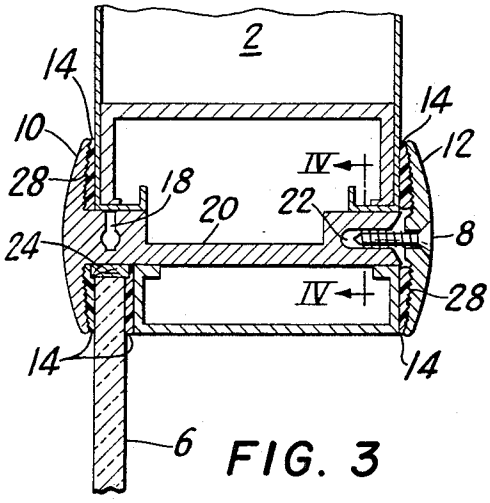


FIG. 3

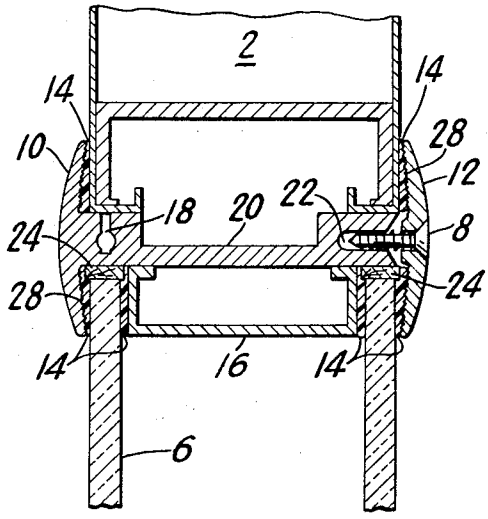


FIG. 3A

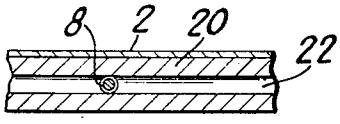


FIG. 4

INVENTOR.
ROBERT W. POND

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3,566,565

ADJUSTABLE WINDOW FRAME

Robert W. Pond, Bethel Park, Pa., assignor to American Air Filter Company, Inc.

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U.S. Cl. 52—208 4 Claims

ABSTRACT OF THE DISCLOSURE

The invention is an adjustable window frame which is easily and effectively weather-stripped. The adjustable feature is contained in pairs of spaced opposed stop strips comprising portions of the frame, one of which stop strips of a pair being adjustably mounted relative the other stop strip of the pair. Both stop strips can be arcuate in cross section and are serrated on opposed surfaces. When the frame is positioned through the wall and window panes are inserted into the frame, the opposed adjustable stop strips engage the surrounding wall and the surrounding panes of glass at a slight angle leaving a small crevice which is filled between the walls and the strips and between the pane of glass and the strips with caulking and glazing material prior to frame installation. On securing the window frame the adjustable stop strip is forced inward causing both it and the other permanently fixed stop strip to move from a converging to a parallel path which in turn compresses the sealing material against the window pane and the wall giving an excellent gripping, securing and sealing operation.

BACKGROUND OF THE INVENTION

Many times, builders have desired to insert a prefabricated window frame through a wall. To do this, a builder would first have to knock a hole through the wall and insert a window frame through the hole. A problem arises here because prefabricated window frames are usually of standard size; and, if for some reason, the wall to be spanned by the window frame is too wide or too narrow, a specially ordered, usually expensive, window frame must be obtained. The builder has alternate choices of (1) adjusting the standard window frame or (2) adjusting the wall so that the window frame and the wall complement one another. Unfortunately, both choices are troublesome and expensive. The invention provides a readily adjustable window frame which is easy to assemble yet has the structural integrity of a preassembled window frame; and, further, the window frame of the invention is more effectively weather-stripped than window frames described heretofore.

SUMMARY OF THE INVENTION

In accordance with this invention, an adjustable and easily weather-stripped window frame is provided. The window frame comprises a plurality of longitudinally extended side members, the side members being interconnected to form a frame. The body of each side member has a continuous channel shaped adjusting slot coextensive in length with the length of the body and located at one end of the body. An alignment groove which is also coextensive in length with the length of the side members is located near the other end of the body. Located at the slotted end is an adjustable and removable stop strip which is fastened to the body by fasteners extending into the slot of the body. At the opposed end of the body is a permanently fixed stop strip. Both stop strips are sized to extend normally from either side of the body portion of the side member to form a cross-sectional configuration of I-shaped, the stop strips being arcuate and serrated on opposed surfaces. Both stop strips are coextensive in length with the length of the body of the side member.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an elevational view of a window frame incorporating the invention inserted in a panelized wall.

FIG. 2 is an alternate embodiment of the invention showing an elevational view of an arcuate-shaped window frame.

FIG. 3 is a cross-sectional view of section 3—3 as seen in FIG. 1 where FIG. 1 represents a single-glazed window unit.

FIG. 3*a* is a cross-sectional view of section 3—3 as seen through FIG. 1 where FIG. 1 is a double-glazed window unit.

FIG. 4 is a cross-sectional view of section 4—4 as seen in FIG. 3.

DETAILED DESCRIPTION

The window frame itself consists of several side members including spaced opposed jambs **30**, sill **32** and header **34**. Each side member is similar in configuration and includes a longitudinally extending body portion **20** which has located near one end thereof a longitudinally extended alignment groove **18** and located at the other end a longitudinally extending channel-shaped slot **22**. Body portion **20** has integral therewith a permanently fixed stop strip **10** located adjacent to the alignment groove **18**. This stop strip **10** is seen in FIGS. 3 and 3A to extend normally in flanged relation on either side of body portion **20**. Stop strip **10** is further described as being arcuate in cross-sectional shape so that its interior surface engages the surrounding wall **2** and the surrounding pane of glass **6** at a slight angle leaving a crevice between the stop strip **10** and the surrounding wall **2** and the stop strip and the pane of glass **6**. The interior surface of stop strip **10** is further distinguished by being serrated as at **28**. These serrations at **28** extend longitudinally across the stop strip. On the opposed end of body portion **20** there is located an adjustable and removable longitudinally extending stop strip **12** which is identical in description to permanently fixed stop strip **10**, except that it contains a plurality of fasteners **8** which fit into longitudinally extending continuous slot **22** of body **20**. It will be noted from FIG. 3 that the body portion and the opposed stop strips **10**, **12** form side members of I-shaped cross-sectional configuration. In accordance with the present invention each side member is provided with a removable sole unitary spacer insert **16** which can extend as a unit longitudinally completely around the wnidow frame and which is of varied width, depending upon wall thickness to permit adjustment of the side member to the wall. Spacer insert **16** can be a piece of extruded aluminum. FIG. 3 shows a single glazed window unit with only one pane of glass in the unit. A double glazed unit is shown in FIG. 3A with two panes of glass. Glazing, weather-stripping or some other suitable sealing material **14** can be inserted between the permanently fixed stop strip **10** and adjustable stop strip **12** and the surrounding wall and the surrounded window frame **6**, between removable inserts **16** and between the window pane **6** and in the case of the single glazed window (FIG. 3) unit between the removably fixed stop strip **12** and the insert **16**. A suitable spacer or shim **24** which is coextensive in length with the length of body portion **20** can be placed between the window frame and the body portion **20** of the side members.

Referring to FIGS. 1 and 2, two elevational views are shown of two common embodiments of the invention. FIG. 1 shows the common rectangular window unit and FIG. 2 shows the familiar circular window unit. It should be made clear at this point that the invention is not limited

to a rectangular or circular window unit but includes hexagonal, heptangular, octangular, elliptical, or other such type configurations. The novelty of the invention can probably best be seen through FIG. 3 which is a cross-sectional view through section 3—3 of the head member in FIG. 1. A cross-sectional view through the two side jambs **30** or through the sill **32** would be the same.

Assembly of the window frame is simple and easy. The window frame comes pre-assembled with or without welded corners, the side members interconnected as shown by the mitered joints **36** in FIG. 1. The window frame minus removable stop strip **12** and fastener **8** is inserted through the wall to be spanned. Sealant material **14** is disposed on the interior surfaces of permanently fixed stop strip **10**. A first pane of glass **6** is then inserted against the sealant material **14**. A shim **24** is disposed between the body portion **20** and the pane of glass **6**. A removable insert **16** sized in accordance with the appropriate wall thickness is then placed on the interior surface of body portion **20**. Sealing material **14** is then disposed on the interior surface of the pane of glass **6** and between the glass and the insert **16**. The removable insert **16** is then pushed snugly against sealant material **14** which has been disposed on the interior surface of the pane of glass. If the window is to be only single-glazed, the adjustable and removable stop strip **12** is then inserted so that fastener **8** begins to enter continuous slot **22**. More sealing material **14** is then disposed on the interior surface of stop strip **12**. Fastener **8** is tightened until removable stop strip **12** is firmly against sealant **14** compressing it against both the wall **2** and the insert **16**. The fastener **8** is shown in the drawing as a screw but it could equally well be any type of fastener such as blind bolt or rivet. A screw, is suitable, and preferably being self-tapping. If the window unit is to be double-glazed, another pane of glass **6** is disposed between the insert **16** and adjustable stop strip **12**. Sealant material **14** is, of course, disposed on the interior surface of the pane of glass **6** between the glass and the insert **16** and between the exterior surface of the pane of glass **6** and the adjustable stop strip **12**. A shim or spacer **24** is again disposed between the planar member **20** and the pane of glass **6**. Once adjustable stop strip **12** is positioned snugly against the wall **2** and the insert **16** (single-glazed) or pane of glass **6** as shown in FIG. 3*a* (double-glazed), it is then tightened so that the arcuate sides of both stops strips **10** and **12** are bent from converging paths to parallel paths gripping the sealant **14** and compressing it against the surrounding wall and the pane of glass or the insert. One can readily see that on tightening adjustable stop strip **12**, the force will be transferred through the insert **16** to the pane of glass **6** adjacent to the permanently fixed stop strip **10** and from there to the permanently fixed stop strip **10**. This straightening of the formerly arcuate sides results in superior gripping.

The serrations **28** on the opposed surfaces of the stop strip insure a retention of sealant material **14** from escaping due to the tremendous gripping pressures applied when the two stops strips **10** and **12** are forced to a parallel position.

The materials for construction of the window frame can be wood, plastic, or metal. Due to the particular design of the window frame, extruded aluminum is preferred. Any caulking or sealing material can be used, with butyl rubber tape being preferred.

What is claimed is:

1. A wall mountable window frame for framing a pane member within a wall comprising a plurality of elongated side members interconnected at their ends to form a frame; each of said side members including a body portion and opposed stop strips extending normally from opposite ends of said body portion in flange relationship on either side of said body portion, one of said stop strips being adjustably movable relative the other; and a removable sole spacer insert extending horizontally between opposed stop strips, said spacer insert being sized in accordance with the thickness of the wall into which the frame is to be inserted to permit gripping of the window pane edge between one of the extremities of said insert and a flange of a spaced stop strip member when said stop strips are adjusted into gripping relationship with the wall in which they are mounted.

2. The apparatus of claim **1**, said stop strips being arcuate in cross-section and serrated on opposed faces to insure effective gripping of sealant material between themselves and the pane.

3. The apparatus of claim **1**, said body portion of each of said side members having a longitudinally extending slot at at least one end thereof and fastener means cooperating with said slot to adjustably fasten one of said stop strips to such end.

4. The apparatus of claim **1**, said body portion of each of said side members having a longitudinally extending groove therein to facilitate alignment of said side members during frame assembly.

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PRICE C. FAW, JR., Primary Examiner

U.S. Cl. X.R.

52—399, 498, 616; 49—505