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(54) Window assembly.

(57) A window assembly comprises an outer frame (10) providing an opening (31) for a vent frame (17), the outer frame (10) having a lip (30,18) which extends in a direction inwardly of the opening (31) from a position of the outer frame at or adjacent a first side (S1) of the window assembly to provide a rebate (33), an adaptor (36) adapted to be received in the rebate (33), the adaptor (36) providing a lip (43) which extends inwardly of the opening (31) beyond the lip (30, 18) provided by the outer frame (10) from a position at or adjacent a second side (S2) of the window assembly opposite the first side (S1).

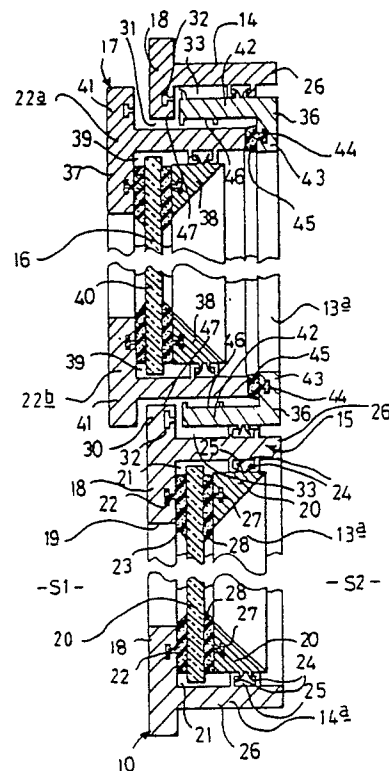


FIG 2

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Window Assembly

This invention relates to a window assembly and to a method of converting a window assembly for a vent frame which opens in one direction from an outer frame, to a window assembly for a vent frame which opens in an opposite direction from the outer frame, and to an adaptor for use in the method.

A window assembly conventionally comprises an outer frame in which a glazing panel which may be either a single fixed glass pane or a double glazing panel of two spaced panes, and an opening vent frame are received. The outer frame provides a lip at or adjacent one side which together with a glazing bead provides a channel to receive the glazing panel. Otherwise the lip provides a rebate against which the vent frame closes.

It is preferred for security reasons for the glazing bead to be provided on the inside of a building, but to install the outer frame to achieve this, would mean that the vent frame would have to open inwardly. An outwardly opening vent frame is preferred.

To reconcile these conflicting requirements, presently it is common practice for a fabricator to construct a window assembly, or modify an existing window assembly, so that the lip of the outer frame is on a first, outer side of the outer frame where the fixed glazing panel is to be provided, so that the glazing bead will be on the inside, and is at a second, inside of the outer frame, around the vent frame.

According to a first aspect of the invention we provide a window assembly comprising an outer frame providing an opening for a vent frame, the outer frame having a lip which extends in a direction inwardly of the opening from a position of the outer frame at or adjacent a first side of the window assembly to provide a rebate, an adaptor adapted to be received in the rebate, the adaptor providing a lip which extends inwardly of the opening beyond the lip provided by the outer frame from a position at or adjacent a second side of the window assembly opposite the first side.

Thus the vent frame may open from the first side of the window assembly and close against the lip provided by the adaptor. Thus in a window assembly having an opening to receive a vent frame, and a second opening to receive a fixed glazing panel, the outer frame may provide a lip at the same side of the window assembly around the opening for the fixed glazing panel and the opening for the vent frame, and the glazing bead around the fixed glazing pane can be provided on the second, inside, of the window assembly, and the vent frame may open to the outside, from the first side, of the

window assembly.

The lip provided by the outer frame may extend around the entire opening. Where the opening is generally rectangular, the adaptor may be provided by four lengths, each length being received in the rebate along one side of the opening, so that the adaptor extends around substantially the entire opening of the window assembly.

Conveniently the adaptor, or each of the adaptor lengths, is provided as an extrusion of generally constant cross-section throughout its length. The adaptor may be generally L-shaped with a first limb lying alongside the outer frame within the rebate around the periphery of the opening, and the second limb may provide the lip. The vent frame may be hinged in the opening by hinges which cooperate with the first limb of the adaptor along one side of the opening.

Preferably, the first limb of the adaptor or each length of the adaptor comprises a wall which lies in alongside the respective frame side so as to provide a generally continuous surface with an edge of the lip provided by the outer frame, with connecting means as required projecting away from the wall towards and into engagement with the adjacent side of the outer frame.

The outer frame conventionally would have a groove or the like at or adjacent the second side of the window assembly to receive the glazing bead when a fixed glazing panel was received in the opening. Conveniently the connecting means of the adaptor, or each adaptor length, engages with the groove to secure the adaptor, or each adaptor length, in the rebate.

The lip of the outer frame may have a groove facing inwardly of the rebate which, where a fixed glazing panel was received in the opening, would receive a sealing gasket. If desired, the connecting means of the adaptor may cooperate with this groove alternatively and/or additionally, to secure the adaptor, or each adaptor length, in the rebate. Any alternative suitable connecting means could be provided.

The lip of the adaptor may provide a groove to receive a sealing gasket which cooperates with the vent frame when the vent frame is closed against the lip to provide a seal.

The adaptor or each adaptor length may be made of metal, such as aluminum, or preferably UPVC.

The outer frame of the window assembly may comprise a further opening to receive a fixed glazing panel, the outer frame having a lip which extends in a direction inwardly of the second opening from a position of the outer frame at or adjacent

the first side, the lip, and a glazing bead provided around the opening at a position at or adjacent the second side of the outer frame, providing a channel to receive the fixed glazing panel.

Preferably the window assembly is installed in a building with the first side of the assembly being on the outside of the building, and the second side of the assembly being on the inside of the building.

According to a second aspect of the invention we provide a method of converting a window assembly for a vent frame which opens in one direction from an outer frame, to a window assembly having a vent frame which opens in an opposite direction from the outer frame, the method comprising receiving an adaptor in a rebate of the outer frame provided by a lip which extends in a direction inwardly of the opening of the outer frame from a position of the outer frame at or adjacent a first side of the window assembly, the adaptor having a lip which, in use, extends inwardly of the opening beyond the lip provided by the outer frame, from a position at or adjacent a second side of the window assembly opposite to the first side, and mounting a vent frame in the opening so that the vent frame is opened from the first side of the assembly and so that the vent frame co-operates with the lip of the adaptor when the vent frame is closed in the outer frame.

Where the opening and vent frame are generally rectangular, the method may include providing the adaptor around all four sides of the opening. Where the adaptor is of constant cross section throughout its length, the method may include cutting four adaptor lengths from one continuous length of material, and receiving each adaptor length in the rebate of the outer frame adjacent a respective side of the opening.

According to a third aspect of the invention we provide an adaptor for the window assembly of the first aspect of the invention or for use in the method according to the second aspect of the invention.

The invention will now be described with reference to the accompanying drawings in which:

FIGURE 1 is a first elevation of a window assembly in accordance with the invention;

FIGURE 2 is a cross section through the window assembly of Figure 1, to an enlarged scale.

Referring to the drawings, a window assembly comprises an outer frame 10 which is adapted to be received in an opening in a wall 11 of a building. The outer frame 10 includes a pair of uprights 13a,13b, a cill 14a and a transom 14b, and a cross beam 15 which divides the outer frame 10 into two sections, namely, a first lower section adapted to receive a fixed glazing panel 16 therein, and an upper section which is adapted to receive a rectangular opening vent frame 17. In the present exam-

ple, the vent frame 16 is of substantially the same shape in cross section as each of the components 13a,13b,14a,14b,15, of the outer frame 10.

The outer frame 10 includes a first lip 18 which extends inwardly of an opening 19 provided by uprights 13a,13b, cill 14a and cross beam 15 of the lower section, which lip 18 together with a glazing bead 20, provides a channel 21 in which the glazing panel 16 is received. The glazing panel 16 may comprise a single thickness of glass as shown, or a double pane glazed panel as required.

The first lip 18 has a re-entrant groove 22 around all four sides of the opening 19 which faces inwardly of the channel 21 and receives a sealing gasket 23 as is well known in the art.

The glazing bead 20 has a pair of connecting fingers 24 which engage in a re-entrant groove 25 provided on generally horizontally extending part 26 of the uprights 13a,13b, cill 14a, and cross beam 15 of the outer frame 10.

The glazing bead 20 also has a re-entrant groove 27 to receive a further sealing gasket 28, the gaskets 23 and 28 engaging opposite sides of the glazing panel 16 to provide a seal therewith.

It will be appreciated that the outer frame 10 affords a generally rectangular opening 19 for the glazing panel 16, and that the channel 21 is provided around all four sides of the opening by the lip 18 and glazing bead 20.

The cross beam 15 of the outer frame 10 has a second lip 30 which extends from the generally horizontal part 26 in a generally opposite direction to the first lip 18. The lip 30, together with parts of the first lip 18 provided by the uprights 13a,13b and the transom 14b bound a further opening 31 in which conventionally, the opening vent frame 17 is received, the frame 17 closing against the lips 30,18, in which are provided re-entrant grooves 32 which would normally receive sealing gaskets to provide a seal with the vent frame 17.

However, this would mean that if it is desired for the vent frame 17 to open to the outside of the building, i.e. outwardly of a rebate 33 provided by the lips 18,30, the glazing bead 20 around the fixed glazing panel 16, would be on the outside of the building. It is preferred for glazing beads 17 and 33 to be provided on the inside of the building and for the vent frame 15 to open to the outside of the building.

According to the invention, a reversal of the opening direction of the vent frame 17 is achieved by providing an adaptor 36. It can be seen that the vent frame 17 has a lip 37 similar to lip 30, which together with a further glazing bead 38 provides a further channel 39 to receive a glazing panel 40 of the vent frame 17.

The vent frame 17 includes a further lip 41 which extends in an opposite direction to lip 37 and

overlaps the lip 18,30 of the outer frame 10.

The adaptor 36 is received in the rebate 33 provided around the opening 31. The adaptor 36 comprises four lengths, one for each side of the opening 31 each length being generally L-shaped in section, having a first limb 42 which lies generally alongside the horizontally extending part 26 of the adjacent side of the outer frame 10, and a second limb 43 of the L itself comprising a lip. The lip 43 has a re-entrant groove 44 in which a sealing gasket 45 is received which, in use, co-operates with the vent frame 17 to provide a seal between the vent frame 17 and the adaptor 36.

The adaptor 36 further includes a wall 46 which lies at a position so as to provide a generally continuous surface with an edge 47 of the vent frame 17.

The vent frame 17 is hinged in the opening 31 provided by the transom 14b, uprights 13a,13b and cross member 15 of the outer frame 10 and by virtue of the adaptor 36, can open to a first side S1 of the window assembly 10 whilst the glazing beads 20 and 38 are provided on an opposite second side S2 of the window assembly 10.

To connect the adaptor 36 to the outer frame 10, the adaptor 36 is provided with a pair of tangs 50, similar to fingers 20, which are received in a re-entrant groove 51 provided on the horizontally extending parts 36 of the respective adjacent transom 14b, uprights 13a,13b and cross brace 15, which if a fixed glazing panel was received in opening 31, would receive glazing beads. A further finger 52 extends into the rebate 33 behind the respective lip 18,30, to provide further securement.

Any other desired connecting means could be provided to connect the adaptor 36 i.e. each of the adaptor lengths, around the opening 31, with the lip 43 extending inwardly of opening 31 beyond the respective lip 18,30.

Thus the two requirements of outwardly opening vent frame 17 and inwardly located glazing beads 20,38, are achieved by virtue of the adaptor 36.

Various modifications may be made without departing from the scope of the invention. For example, in the window assembly described, the components of the vent frame 17 and outer frame 10 are of generally the same cross section but could be of different cross section if required. The adaptor 36 is only an example of one configuration of adaptor which may be received in the rebate 33 and provide a lip 43 with which the vent frame 17 co-operates as the vent frame 17 is closed in the opening 31.

In another window assembly configuration, the fixed glazing panel 16 may be provided in an opening 19 above the opening 31 provided for the vent frame 17, or to the side of an opening pro-

vided for a vent frame as required.

The present invention enables a window assembly 10 to be constructed in which the lips 18,31, are provided at or adjacent the same side S1 of the outer frame 10 whereas previously, it would have been necessary to provide at least the lip 18 around the opening 19 on the first side S1 of the outer frame 10 and the lips 18,30 around opening 31 on opposite second side S2 of the outer frame 10 so as to provide an outwardly opening vent frame 17 and internal glazing beads 20,38.

The features disclosed in the foregoing description or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed result, or a class or group of substances or compositions, as appropriate, may, separately or in any combination of such features, be utilised for realising the invention in diverse forms thereof.

Claims

1. A window assembly comprising an outer frame (10) providing an opening (31) for a vent frame (17), the outer frame (10) having a lip (30,18) which extends in a direction inwardly of the opening (31) from a position of the outer frame (10) at or adjacent a first side (S1) of the window assembly to provide a rebate (33) characterised in the provision of an adaptor (36) adapted to be received in the rebate (33), the adaptor (36) providing a lip (43) which extends inwardly of the opening (31) beyond the lip (30;18) provided by the outer frame (10) from a position at or adjacent a second side (S2) of the window assembly opposite the first side (S1).

2. A window assembly according to claim 1 characterised in that the opening (31) afforded by the outer frame (10) is generally rectangular and the adaptor (36) is provided by four lengths, each length being received in the rebate (33) along one side of the opening (31), so that the adaptor (36) extends around substantially the entire opening (31).

3. An assembly according to claim 1 or claim 2 characterised in that the adaptor (36) or each of the adaptor lengths, is provided as an extrusion of generally constant cross-section throughout its length, the adaptor (36) being generally L-shaped with a first limb (42) lying alongside the outer frame (10) within the rebate (33) around the periphery of the opening (31), and a second limb providing the lip (43).

4. An assembly according to claim 3 characterised in that the first limb (42) of the adaptor (36) or each length of the adaptor comprises a wall (43) which lies alongside the respective frame side (13a,13b,14b,15) so as to provide a generally con-

tinuous surface with an edge of the lip (30,18) provided by the outer frame (10), with connecting means (50) projecting away from the wall (42) towards and into engagement with the adjacent side (13a,13b,14b,15) of the outer frame (10).

5. An assembly according to claim 3 or claim 4 characterised in that the lip (43) of the adaptor (36) provides a groove (44) to receive a sealing gasket (45) which co-operates with the vent frame (17) when the vent frame (17) is closed against the lip (43) to provide a seal.

6. An assembly according to any one of the preceding claims characterised in that the outer frame (10) of the window assembly comprises a further opening (19) to receive a fixed glazing panel (16), the outer frame (10) having a lip (18) which extends in a direction inwardly of the second opening (19) from a position of the outer frame (10) at or adjacent the first side (S1), the lip (18) and a glazing bead (20) provided around the opening (19) at a position at or adjacent the second side (S2) of the outer frame (10), providing a channel (21) to receive the fixed glazing panel (16).

7. An assembly according to any one of the preceding claims characterised in that the window assembly is installed in a building with the first side (S1) of the assembly being on the outside of the building, and the second side (S2) of the assembly being on the inside of the building.

8. A method of converting a window assembly for a vent frame (17) which opens in one direction (S2) from an outer frame (10), to a window assembly having a vent frame (17) which opens in an opposite direction (S1) from the outer frame (10), the method comprising receiving an adaptor (36) in a rebate (33) of the outer frame (10) provided by a lip (30,18) which extends in a direction inwardly of an opening (31) of the outer frame (10) from a position of the outer frame (10) at or adjacent a first side (S1) of the window assembly, the adaptor (36) having a lip (43) which, in use, extends inwardly of the opening (19) beyond the lip (30,18) provided by the outer frame (10), from a position at or adjacent a second side (S2) of the window assembly opposite to the first side (S1) and mounting a vent frame (17) in the opening (31) so that the vent frame (17) is opened from the first side (S1) of the assembly and so that the vent frame (17) co-operates with the lip (43) of the adaptor (36) when the vent frame (17) is closed in the outer frame (10).

9. A method according to claim 8 characterised in that the opening (31) and vent frame (17) are generally rectangular and the method includes providing the adaptor (36) around all four sides of the opening (31) by cutting four adaptor lengths from one continuous length of material, and receiving

each adaptor length in the rebate (33) of the outer frame (10) adjacent a respective side (S1) of the opening (31).

10. An adaptor (36) for the window assembly of claims 1 to 8 or for use in the method according to claim 9.

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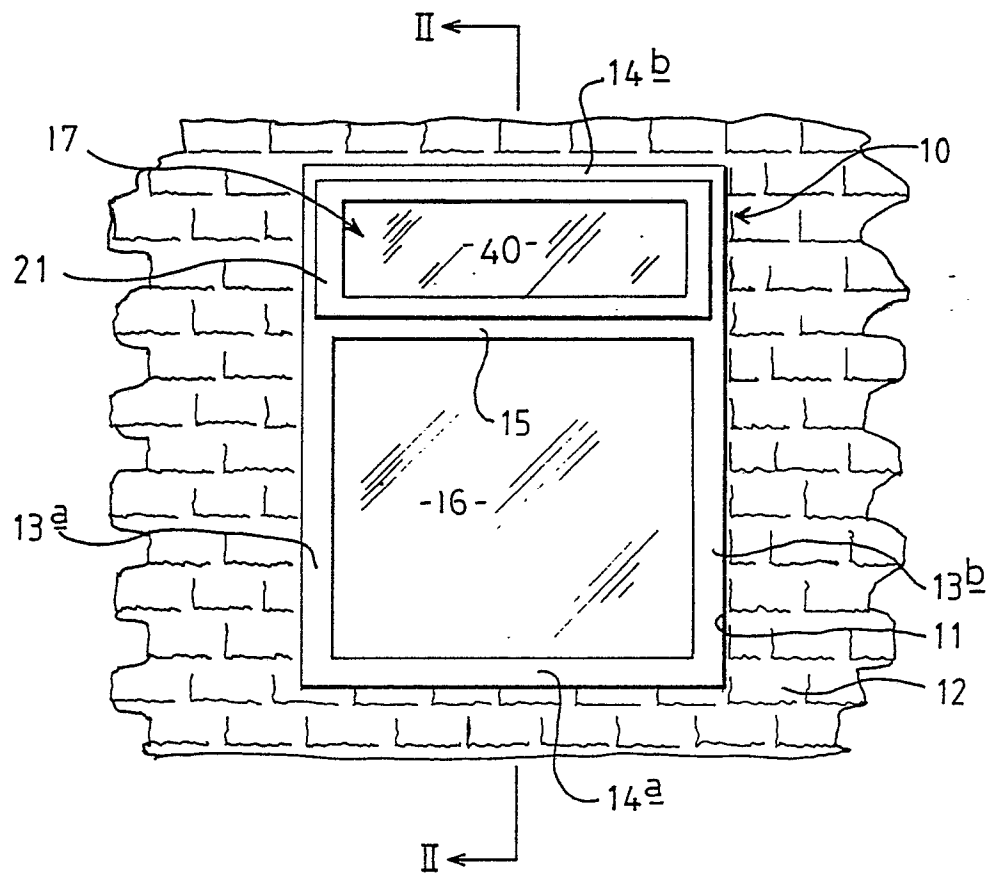


FIG 1

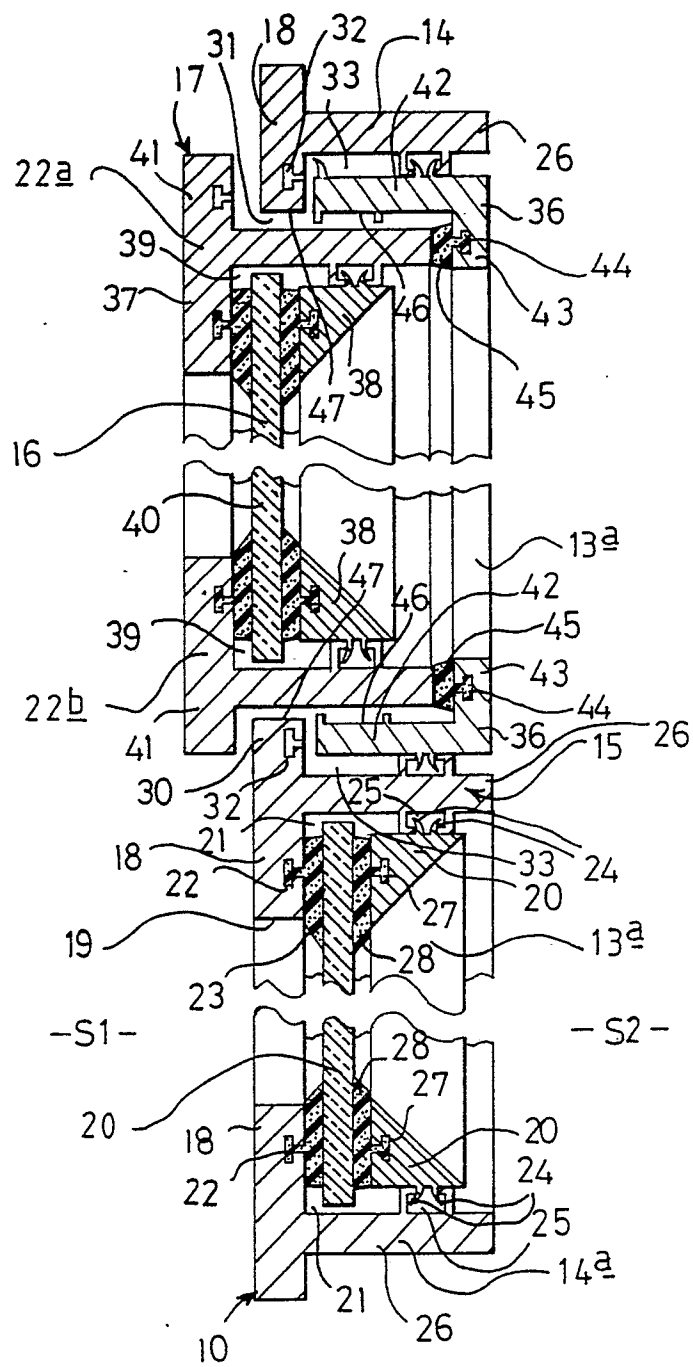


FIG 2



EP 89 10 4953

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
A	GB-A-1 007 923 (HOPE) * Page 1, line 35 - page 2, line 98; figures 1,2 * ---	1-3,5,8 -10	E 06 B 3/32 E 06 B 3/58
A	FR-A-1 588 053 (PIATTI) * Page 8, lines 21-29; page 9, lines 2-37; figure 19 * ---	1-5,8- 10	
P,X	GB-A-2 196 041 (SMITH & SONS) * Page 1, lines 73-110; page 2, lines 47-106; page 2, line 124 - page 3, line 8; figure 4 * ---	1-10	
A	GB-A-2 120 714 (LB PLASTICS) ---		
A	GB-A-2 155 087 (GLOSTER PLASTICS) -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			E 06 B
Place of search THE HAGUE		Date of completion of the search 19-06-1989	Examiner DEPOORTER F.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document			