United States Patent [19]

Eichman

[11] **3,720,025**

[45] **March 13, 1973**

[54] **CURTAIN WALL SYSTEM WITH VENTS**

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[22] Filed: **March 5, 1971**

[21] Appl. No.: **121,277**

[52] **U.S. Cl.** **52/204,** 49/504, 52/235, 52/397, 52/476

[51] **Int. Cl.** **E04b 2/88**

[58] **Field of Search**.....52/207, 235, 397, 204, 476; 49/484, 504, DIG. 1, 400, 401

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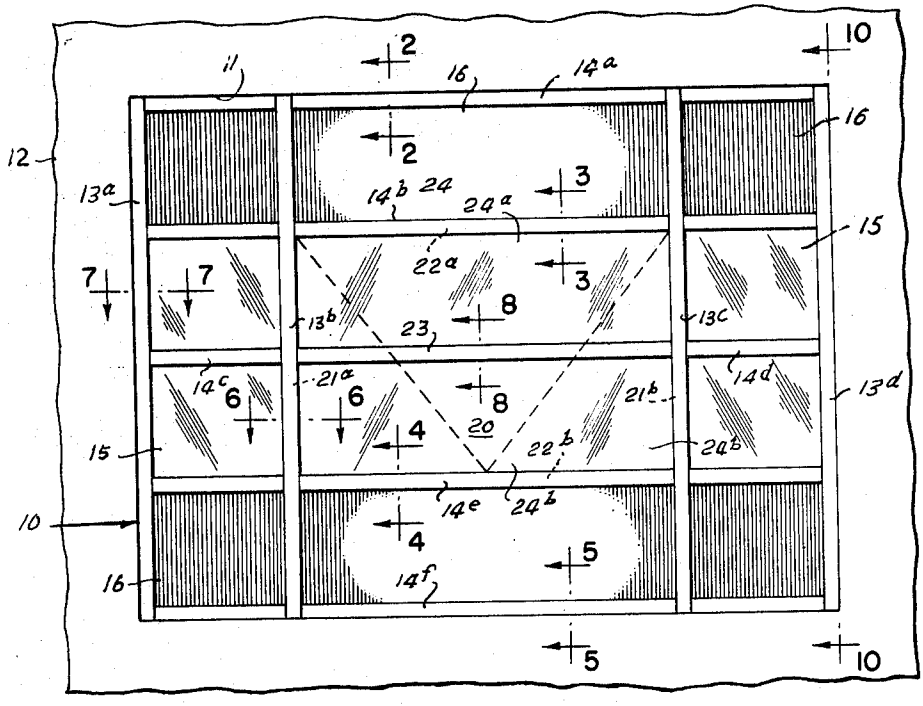
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[57] **ABSTRACT**

A curtain wall structure includes common extruded aluminum members which are assembled to form narrow profile vertical and horizontal mullions defining bay frames for supporting panels of glass or other structural panels. Frames for casement operating windows or vents are formed from similar extruded aluminum members, with the vent frames interfitting with the bay frames to maintain the narrow profile appearance of the curtain wall mullions. The common framing members are L-shaped in cross section defining side walls and face walls, with the face walls providing the narrow profile appearance; and are configured so that two framing members interfit with each other to maintain the narrow profile appearance. The framing members include longitudinal grooves which define panel supporting channels in the bay frames, or which retain longitudinal stops defining alternative panel supporting channels.

9 Claims, 18 Drawing Figures



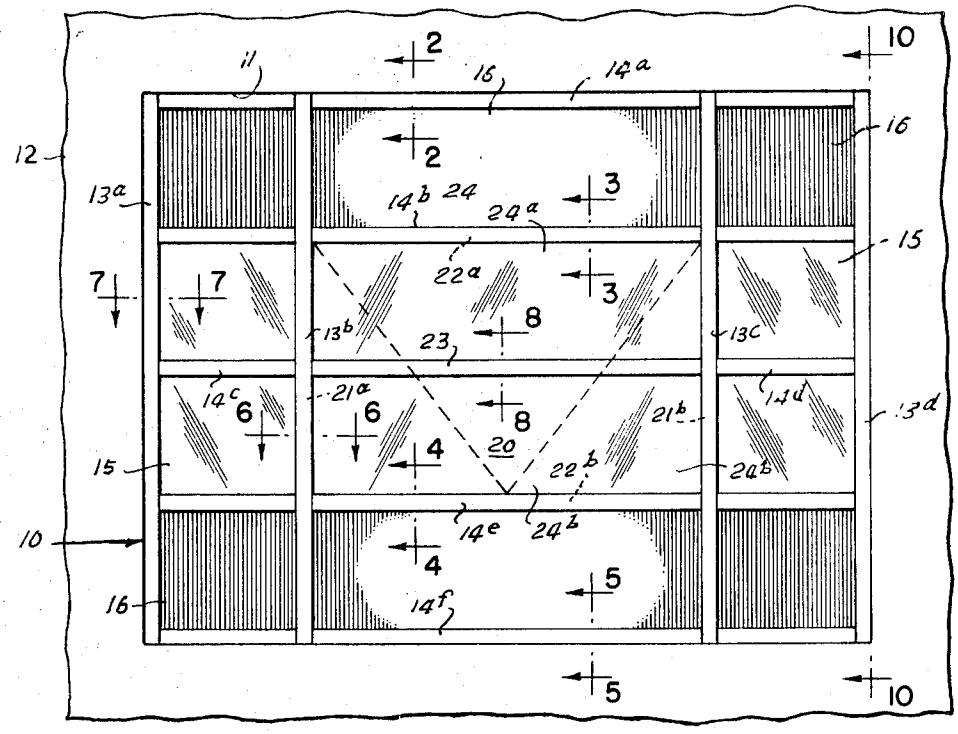


Fig.1

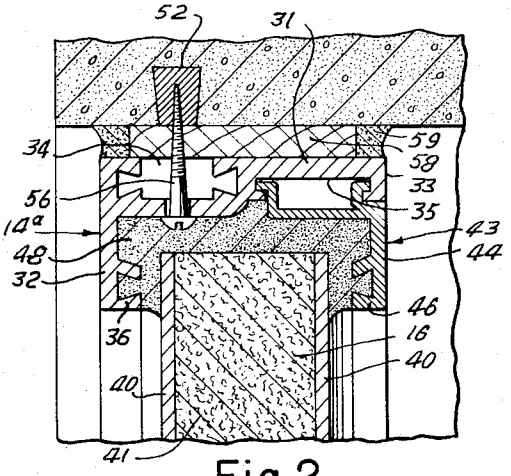


Fig.2

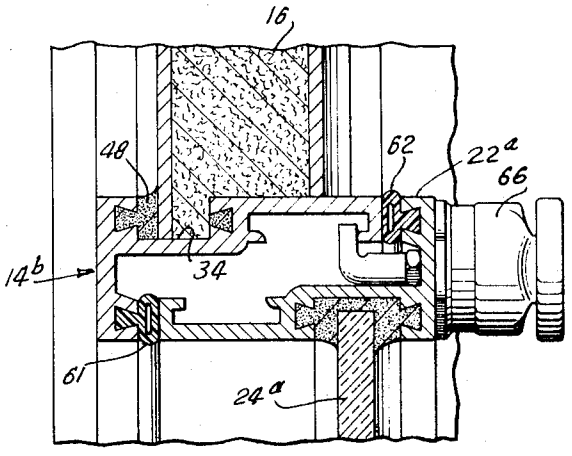


Fig.3

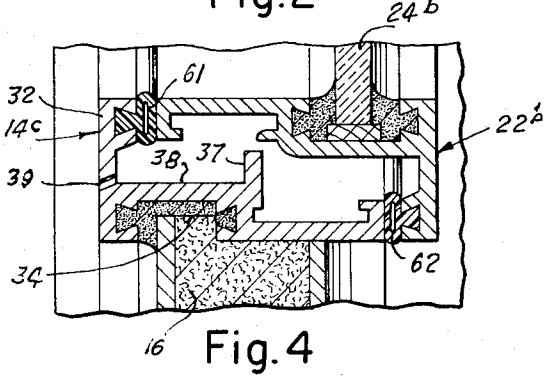


Fig.4

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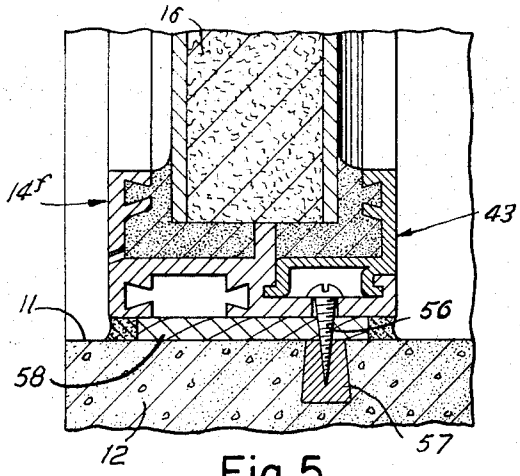


Fig.5

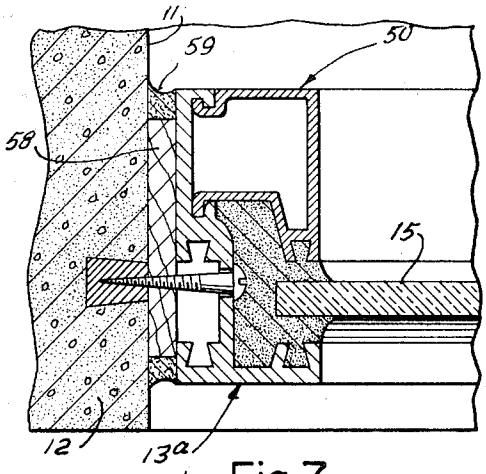


Fig.7

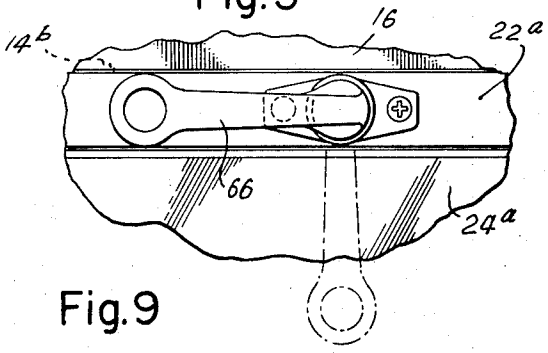


Fig.9

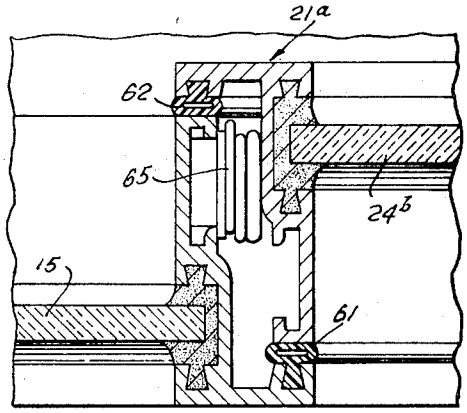


Fig.6

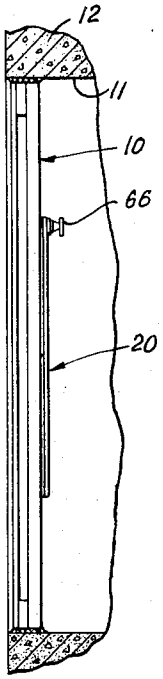


Fig.10

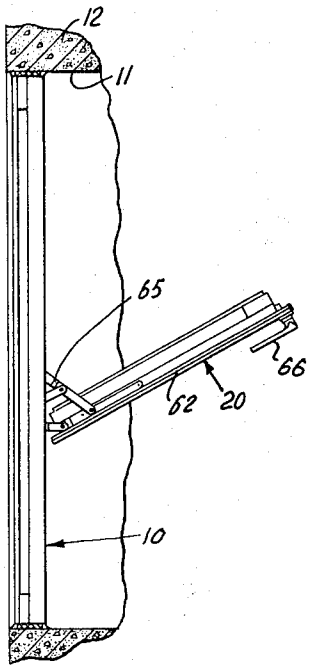


Fig.11

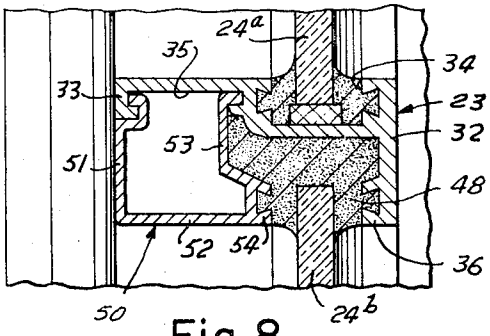


Fig.8

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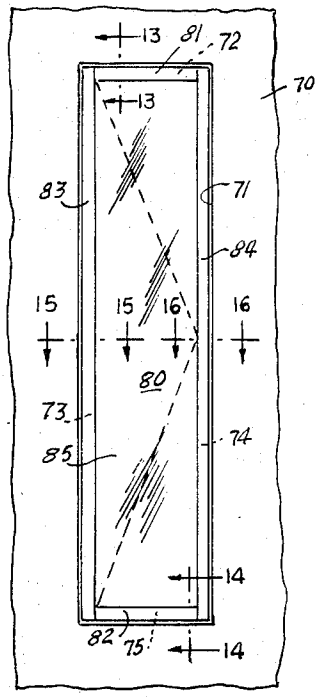


Fig.12

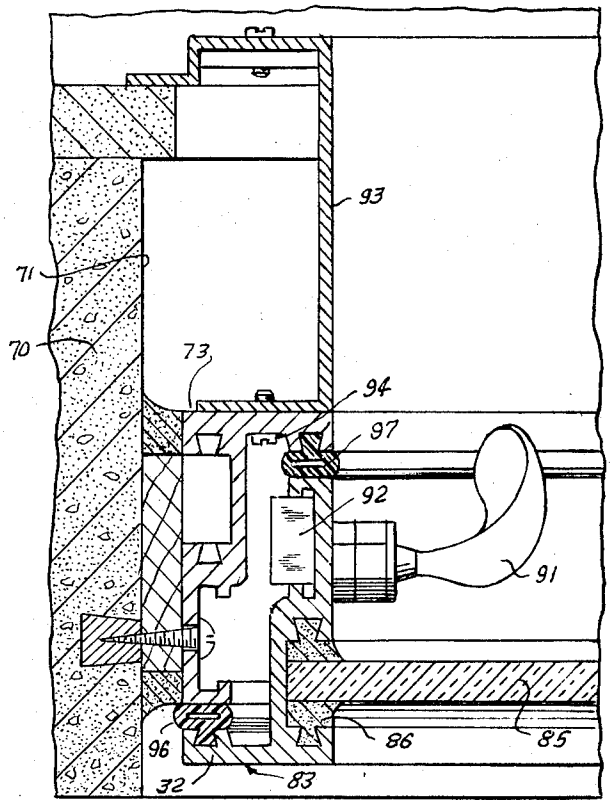


Fig.15

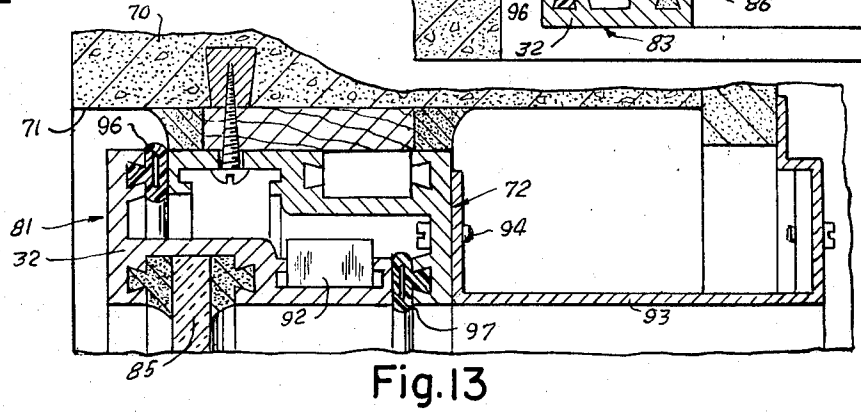


Fig.13

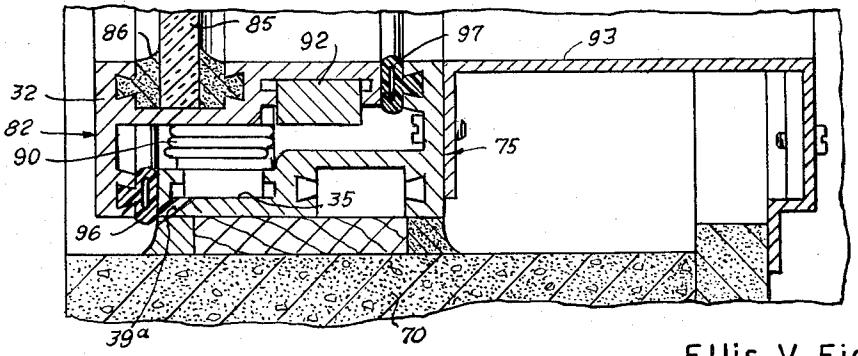


Fig.14

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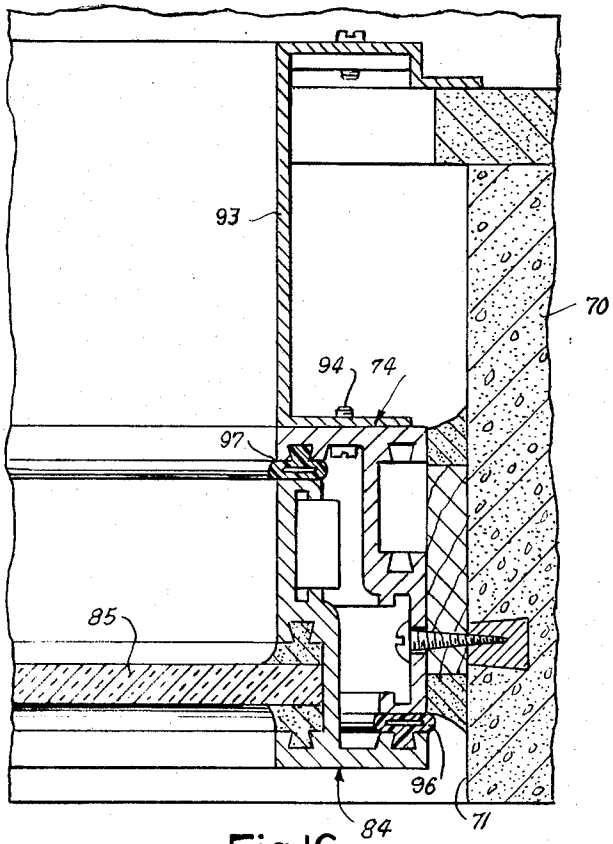


Fig.16

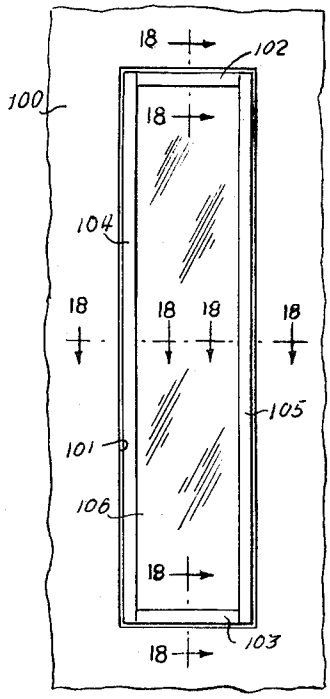


Fig.17

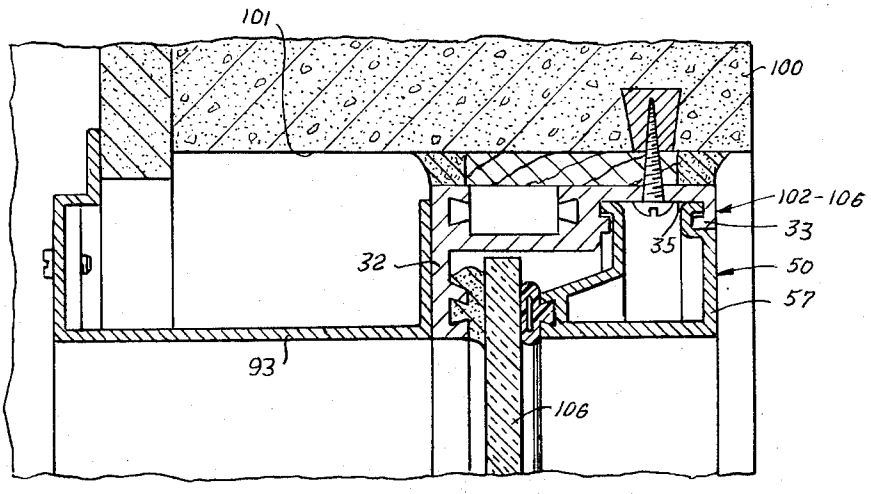


Fig.18

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CURTAIN WALL SYSTEM WITH VENTS

BACKGROUND AND SUMMARY OF THE INVENTION

This invention relates to curtain wall systems; and more particularly to a curtain wall and operating vent structure and assembly.

Applicant's prior U.S. Pats., No. 3403491 granted Oct. 1, 1968, and No. 3,579939 granted May 25, 1971 relate to curtain wall structures suitable for use as building facades or as exterior or interior walls. These curtain walls may include panels of glass or other structural panels which are framed in horizontal and vertical mullions, preferably fabricated from extruded aluminum, into a form to present a narrow profile which is aesthetically pleasing. The present invention is concerned with a vent structure suitable for use with such curtain walls which may be hingedly attached to the wall mullions to define a casement vent or operating window without destroying the narrow profile appearance of the wall structure.

In such curtain walls it is frequently desirable to provide vents, such as casement windows for example, which may be conveniently opened by the occupants of a building or room enclosure to provide air circulation or venting of the enclosure. At the same time, it is desirable that such vent or operating window be constructed in the manner to blend into the wall structure and not destroy the aesthetic appearance of the wall or facade.

An object of this invention is to provide an improved and novel framing structure for curtain walls and for associated vents.

Another object of this invention is to provide such a framing structure wherein common framing members are used for the panel walls mullions and for the vent frames providing for economy of component manufacture and of wall fabrication.

A further object of this invention is to provide a complementary structure of curtain wall framing and vent framing, to maintain the aesthetic narrow profile of the panel wall mullions in the fixed and vented areas.

Still another important object of this invention is to provide an undetectable vent structure in a curtain wall.

These objects are accomplished in a curtain wall structure which includes horizontal and vertical mullions defining at least one bay frame for a casement vent, and wherein framing members of common design are employed in the fabrication of the mullions and of the vent frames. The framing members are L-shaped in cross section defined by side walls and face walls, with the face walls defining the visible profile of the framing members for the curtain wall structure. The framing members are designed to interfit with each other so that a vent frame and vent opening frame are closed in superposed relation to maintain the narrow profile appearance of the wall structure. The framing members provide grooves defining supporting channels for various types of wall panels.

The novel features and the advantages of the invention, as well as additional objects thereof, will be understood more fully from the following description when read in connection with the accompanying drawings.

DRAWINGS

FIG. **1** is a fragmentary view of a building face provided with a wall opening in which is mounted a curtain wall and inward opening casement vent structure according to the invention;

FIGS. **2**, **5** and **7** are fragmentary sectional views taken in the indicated planes in FIG. **1** illustrating the peripheral frame members for the curtain wall assembly and the means for mounting the curtain wall within the building wall opening;

FIGS. **3**, **4** and **6** are fragmentary sectional views taken in the indicated planes in FIG. **1** illustrating the curtain wall framing for the vent opening, the vent frame, and the coacting relation thereof;

FIG. **8** is a fragmentary sectional view taken in the plane **8—8** of FIG. **1** illustrating a horizontal frame bar for the vent;

FIG. **9** is a fragmentary view of the vent latch illustrated in FIG. **3**, as viewed from the interior face of the curtain wall;

FIGS. **10** and **11** are fragmentary sectional views taken in the plane **10—10** of FIG. **1** illustrating the vent in the closed and open positions respectively;

FIG. **12** is a fragmentary view of a building wall showing an outward opening casement vent and associated framing mounted within an opening in the building wall;

FIGS. **13**, **14**, **15** and **16** are fragmentary sectional views taken in the indicated planes in FIG. **12** illustrating the framing for the vent opening as mounted within the building wall opening, the vent frame, and the coacting relation thereof;

FIG. **17** is a fragmentary view of a fixed window mounted within a building wall opening; and

FIG. **18** is a fragmentary sectional view illustrating the mounting of the fixed window pane and frame within the building opening, as viewed in any of the planes **18—18** in Fig. **17**.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In FIG. **1** of the drawing there is shown a curtain wall structure **10** provided in an opening **11** in a masonry wall **12**, for example, as viewed from the exterior of the masonry wall. The curtain wall is made up of vertical mullions **13** and horizontal mullions **14**, with the mullions defining bays within which are mounted wall panels, which may be glass panes **15** in the case of a window structure, or which may be other types of architectural panels **16** wherein opaque wall structure is desired, for example. The peripheral mullions of the illustrated curtain wall **10** are suitably secured within the masonry wall opening **11**.

A vent **20**, illustrated as a framed casement window, is hingedly supported within a curtain wall bay defined by the mullions **13***b*, **13***c*, **14***b* and **14***e*. The vent frame **20** includes vertical frame members **21***a* and **21***b* and horizontal frame members **22***a* and **22***b* (not seen in FIG. **1**) and a horizontal bar **23** supporting respective upper and lower glass lights or panes **24***a* and **24***b*.

Except as noted presently, all of the above-mentioned vertical and horizontal mullions and vertical and horizontal vent frame members are fabricated essentially from desired lengths of a common form of fram-

ing member of the same face width which is preferably an extrusion of a suitable aluminum alloy having the configuration which will now be described with particular reference to FIG. 2, and which is illustrated in the sectional views of the several mullions and vent frames. This framing member is generally L-shaped in cross section, the L-shape being defined by a side wall 31 and a face wall 32. In the usual construction, the side walls lie in planes transverse to the plane of the curtain wall while the face walls of the framing members lie parallel to the plane of the wall and define the visible profile of the mullions between the several wall panels. By way of example, the width of the face wall may be about one inch while the width of the side wall may be about two inches.

The distal edge 33 of the framing member defines an edge wall parallel to and facing oppositely from the outer face of the face wall.

An outer facing shallow groove 34 is provided in the outer face of the side wall 31, adjacent to its intersection with the face wall 32, with the confronting side wall of this outer facing groove 34 being provided with confronting dove tail grooves for a purpose to be described. An inner facing shallow groove 35 is provided in the inner face of the side wall 31 adjacent to the distal edge 33 and being laterally offset from the outer facing groove 34. This inner facing groove is undercut, the confronting side walls being provided with confronting undercut grooves, also for purposes to be described. At the distal edge of the face wall 32, an inwardly directed rib 36 is provided and includes a dove tail groove opening to the inner face which is parallel with the outer profile face of the face wall 32.

As will be described subsequently, the outer facing grooves 34 and the inner facing grooves 35 may be employed to define peripheral channels for accommodating and supporting relatively thin panels of glass or other material in the bays defined by the framing members. As is particularly illustrated in FIG. 2, the framing members may also be employed to accommodate and support a relatively thick architectural panel 16 which may be a laminated structure including exterior face sheets 40 and an interior core 41 of thermal insulation material for example.

To define a supporting channel for a thick panel 16, a face stop 43 is mountable on the framing member defining a face wall confronting the face wall 32. The face stop 43 is an elongated strip of a suitable resilient metal, L-shaped or angle-shaped in cross section, as defined by a face wall 44 and a base wall 45. The base wall 45 includes parallel resilient ribs for locking engagement in the undercut inner facing grooves 35, whereby the face stop 43 is interlocked with the framing member 14a with the outer surface of the stop face wall 44 defining a continuation of the edge wall 33 of the framing member. The distal edge of the stop face wall 44 is provided with an inward facing rib 46 which, in the interlocked relation, confronts the rib 36 of the face wall 32. The interlocked framing member 14a and face strip 43 then define an inner facing channel for accommodating and supporting the architectural panel 16, with the projecting ribs 36 and 46 defining undercuts for retaining sealant material 48 such as a silicone for sealing the panel within its supporting peripheral channel. As best seen in FIGS. 2 and 5, the thick panel 16 is supported centrally in a mullion defined by a framing member and coacting face stop 43.

In certain situations such as illustrated for the vent fixed bar 23 in FIG. 8, it is desired to provide a retaining channel for a relatively thin panel or pane which is opposite or in the same plane as a pane supported in the outer facing groove 34. For this purpose a filler stop 50 is provided, being so designated because it fills out the rectangular cross sectional form of the mullion or framing member, defining a face wall and a portion of a side wall opposite from the side wall 31 of the base framing member.

As best seen in FIG. 8, a filler stop member 50 is generally a channel-shaped member fabricated of a suitable resilient metal such as an extruded aluminum alloy and defining a face wall 51, a side wall 52 and a groove wall 53. The free edges of the face wall 51 and the groove wall 53 define resilient lips for locking engagement with the undercut inner facing groove 35 of the framing member to retain the filler stop in the desired relation wherein the face wall 51 defines a continuation of the edge wall 33 and wherein the groove wall 53 as placed in the confronting relation with the face wall 32. In the vent bar 23 use of the base framing member, illustrated in FIG. 8, the outer facing groove 34 defines in part the supporting channel for the pane 24*a* with the pane being sealed in the channel with a suitable sealant material. An opposite facing groove for accommodating and supporting the lower vent pane 24*b* is defined by the face wall 32 of the base framing member and the groove wall 53 of the filler stop 50. The groove wall is provided with a rib 54 confronting the face wall rib 36, with the rib 54 being provided with a similar dove tail groove to assist in retaining the sealant material for retaining the panes or other wall panels within the retaining channels.

Filler stop members 50 are also used with certain framing members to support the fixed panes 15, as seen in FIG. 7.

It will be noted then that the face stop 43 and the filler stop 50 represent alternative components which may be used with the base framing member to define respectively a relatively wide, central support channel for relatively thick panels, or a relatively narrow supporting channel opposite from the outer facing groove 34 for relatively thin panels.

FIG. 3 illustrates a situation where a relatively thick panel 16 is abutted against the outer face of the base framing member edge wall 31; and in this situation the coacting edge of the panel 16 is particularly formed to be received in the relatively narrow outer facing groove 34 which then defines a retaining channel for the panel 16. In this case, the panel is sealed with a suitable sealant 48 provided in the groove 34 at one face only of the panel 16.

Referring now to the overall curtain wall structure, the outer frame is defined by upper and lower horizontal mullions 14*a* and 14*f* respectively and vertical side mullions 13*a* and 13*d* respectively. As seen in the fragmentary sectional views of FIGS. 2, 5 and 7, the outer faces of the framing member side walls 31 confront the faces of the masonry wall opening 11; and the framing members are secured to the masonry wall through suitable anchoring screws 56 threaded into wooden in-

serts 57 in the masonry wall for example, as seen in FIG. 5. Furring or spacer strips 58 are provided to square the curtain wall opening, and a suitable calking or sealant 59 is provided for sealing the outer frame relative to the masonry wall.

The intermediate vertical mullions 13*b* and 13*c* and horizontal mullions 14*b* through 14*e*, along with the above mentioned mullions 14*a*, 14*f*, 13*a* and 13*d*, define bay frames for supporting the several panels of the curtain wall structure; and one bay frame forms the vent opening defined by the head mullion 14*b*, jamb mullions 13*b* and 13*c* and sill mullion 14*e*.

Since FIG. 1 is a view from the exterior of the building wall 12 and the vent opens inward, the peripheral vent frame members include upper and lower members 22*a* and 22*b* respectively which are disposed behind the head 14*b* and sill 14*e*, and side members 21*a* and 21*b* which are disposed behind jambs 13*b* and 13*c* respectively. The horizontal vent bar 23 is of course visible in FIG. 1, appearing as a continuation of the horizontal mullions 14*c* and 14*d*.

The relatively thick architectural panels 16 are mounted in the upper and lower rows of bays which are above and below the vent opening; and the mounting of these panels 16 is particularly illustrated in FIGS. 2, 3, 4 and 5. Glass panes 15 are mounted in the bay frames at the left and right sides of the vent opening; and the manner of mounting the glass panes is particularly illustrated in FIGS. 6 and 7.

Referring to the relationship between the framing members defining the vent opening and the framing members defining the vent frame, it will be noted from FIGS. 3, 4 and 6 that the framing members for the vent opening are arranged in a manner that the inner surfaces of the side walls 31 are confronting, and the face walls 32 therefor define an inwardly directed peripheral flange as well as defining the vent opening profile as viewed from the building exterior.

Conversely, the framing members defining the outer frame for the vent are arranged so that the outer faces of the framing member side walls 31 are confronting with the face walls 32 defining an outwardly directed peripheral seating flange, with this vent flange coinciding with the profile of the vertical mullions 13*b* and 13*c* and the horizontal mullions 14*b* and 14*c* as viewed from the interior of the curtain wall structure. In the assembled relation of the vent frame within the vent opening, then, the peripheral lip defined by the edge walls 33 of the vent frame members confronts a peripheral sealing seat defined by the face wall ribs 36 of the framing members for the vent opening. A suitable compressable gasket strip 61 may be secured within the dove tail groove of the ribs 36 to form a resilient exterior closure seal 61 between the vent and the vent opening frame. Similarly, a peripheral sealing seat defined by the face wall ribs 36 of the vent framing members support a resilient compressible gasket strip 62 to define an interior resilient seal 62 coacting with the peripheral sealing lip defined by the edge walls 33 of the vent opening framing members.

The vent is swingably supported within the vent opening by articulating hinges 65 connected between the jambs 13*b* and 13*c* and the vent side frame members 21*a* and 21*b* respectively. As best seen in FIG. 6, the hinges 65 are completely enclosed and concealed between the jamb and vent frame when the vent frame is in the closed position. FIGS. 10 and 11, which are side views of a curtain wall structure, illustrate the vent 20 in the closed and open positions respectively. As seen in FIG. 11, the vent swings inwardly and downwardly relative to the building wall structure; and a latch 56 is mounted on the upper vent frame member 22*a* for latching engagement with the vent head 14*b* in the closed position, as illustrated in FIG. 3. Alternatively, latches may be mounted on the jambs for suitable locking with the vent frame.

FIGS. 12 through 16 illustrate another form of vent and curtain wall structure according to the invention, with the vent frame and the frame for the vent opening being fabricated of the same framing members already described.

FIG. 12 is a view from the exterior of a building wall which may be a masonry wall 70 having an opening 71 in which is mounted the framing for the vent opening. In this illustrated embodiment, there are no additional fixed panels surrounding the vent opening. The frame for the vent opening includes a head 72, side jambs 73 and 74 and a sill 75. In this construction, as seen in the sectional views 13 through 16, the vent is an outward swinging vent, and the opening frame members are mounted with their respective side walls 31 disposed in confronting relation with the surfaces of the wall opening 71, with the respective face walls 32 defining an inwardly directed peripheral flange at the interior plane of the vent opening frame. The opening frame members are anchored to the masonry wall structure in the manner previously described through the use of furring strips and anchor screws threaded into suitable anchors, and with a suitable sealant or calking being used to provide a weather seal between the frame members and the wall opening.

The frame for a vent 80, as viewed in FIG. 12, includes upper and lower frame members 81 and 82 respectively and side members 83 and 84. The vent structure is essentially identical to that previously described with the outer faces of the framing member side walls 31 being confronting and the respective outer facing grooves 34 defining a channel for accommodating and supporting a glass pane 85 retained therein with a suitable sealant or glazing compound 86. The face walls 32 of the vent frame members form an outwardly directed peripheral flange which defines the profile of the entire vent structure 80 as viewed from the exterior of the wall 70.

The vent 80 is a side swinging vent; and for this purpose is pivotally supported within the frame opening by means of a pair of concealed articulating hinges 90 of the type previously described which are mounted respectively between the vent opening head 72 and the vent upper frame 81, and between the vent sill 75 and the vent lower frame member 82. FIG. 14 illustrates the lower hinge 90 which, in the closed condition of the vent 80, is confined within the frame enclosure defined by the sill 75 and the vent lower frame member 82.

FIG. 15 of the drawing illustrates the latching jamb 73 of the opening frame and the latching vent frame member 83 upon which is mounted the latch 91 for latching the vent in the closed position and which may function in a manner similar to a conventional latch for a double hung window.

The vent frame **80** may be fabricated as a welded construction; and to provide additional rigidity to the vent frame, reinforcing angles **92** may be provided at the corners of the frame structure, such reinforcing angles being received within the inner facing grooves **35** of the vent framing member side walls **31** and secured to the framing members as by welding. Alternatively, the vent frame and reinforcing angles may be mechanically assembled and fastened.

It may be desirable to include reinforcing angles, such as the angles **92** for either the vent frame or for other framing structures described, particularly when the frame openings are relatively large. Considering that a typical framing member may have a width of only one inch across the face wall and a depth of only two inches across a side wall, it will be appreciated that frames defined by such framing members are not massive, particularly in relation to a relatively large vent or other frame structure.

As with the vent frame and the vent opening frame of FIG. **1**, these frames according to the embodiment of FIG. **12** are of identical dimensions so that the vent frame, which is at the exterior of the building wall in this embodiment, defines the profile for the entire vent framing structure. From the interior of the building wall, the vent opening frame would define the same profile; however, in this form additional filler strips **93** are secured to the vent opening frame to extend the profile to the interior face of the building wall **70** which is considerably thicker than the curtain wall structure. As seen in the drawings, these filler strips which may be fabricated of an extruded aluminum alloy, may be joined to the face walls of the vent opening framing members by means of suitable metal screws **94**.

Exterior and interior seal gaskets **96** and **97** respectively provide a weather seal between the vent and vent frame opening in the manner described previously.

FIGS. **17** and **18** of the drawing illustrate a fixed window structure which may be mounted in an opening **101** in a wall **100**. The frame for this fixed window is fabricated from the same framing members already described including upper and lower frame members **102** and **103** respectively and side frame members **104** and **105**. These members are secured in a wall opening **101** in the same manner as the vent opening frame for the structure of FIG. **12**. As seen in FIG. **18**, which is a cross section representative of any of the frame members, the frame is mounted adjacent to the exterior of the wall face, with the face walls **32** of the framing members extending inward so that the pane **106** is mounted from the exterior of the building wall **100**. The channel for retaining the pane **106** is defined by the face walls **32** of the frame members and filler stops **50**, as described with reference to the embodiment of FIG. **1**, which are retained within the inner facing grooves **35** of the framing members. The face walls **51** of the filler stops **50** along with the edge walls **33** of the framing members define the face profile for the window frame as viewed from the building wall exterior. Again, due to the thickness of the building wall, filler strips **93** are secured in the wall opening **101** to define the face profile for the window frame from the interior of the building wall.

In all of the above-described structures, common framing members are employed to define the base members for curtain wall mullions, the frame openings for casement type operating windows or vents, and the frames for the casement windows or vents. However, a slighly modified framing member structure may be desired for lower or sill members for the purpose of draining water which may collect due to seal leakage or condensation for example. Such a modified structure is shown for the sill **14*e*** for the vent **20** in FIG. **4**. In this modified structure a rib **37** is formed on the inner surface of the side wall **31** forming a wall generally parallel to the face wall **32** and defining, with the face wall, a channel **38** facing oppositely from the outer facing side wall channel **34**. This channel functions as a moisture collection channel for the sill member **14*e***; and a weephole **39** extends through the face wall **32** to drain moisture from this channel to the exterior of the curtain wall structure in this embodiment. As seen in FIG. **4**, moisture which may leak through the vent seal defined by the gasket **61** would be collected in the channel **38** and drained as it is collected.

Referring to FIG. **5**, a similar modified framing member **14*f*** is employed as a lower frame member for the entire curtain wall structure. Here the moisture collecting channel **38** and the weepholes **39** would drain moisture which may leak through the sealant material supporting the panels **16** in the framing mullions, to the exterior of the curtain wall.

Referring to FIG. **14** of the drawing, the embodiment of FIG. **12** presents a slightly different situation where the vent **80** is an outward swinging vent, and the vent frame is self-flashing relative to the vent opening frame. In this arrangement, condensation moisture may collect on the interior surface of the vent pane **85**, may leak through the interior seal defined by the interior gasket **97** for the vent opening frame and drain into the inner facing channel **35** which opens upward in this configuration. To drain this moisture, a plurality of weepholes **39a** are provided communicating the groove **35** with the exterior face of the edge wall **33** to drain to the exterior.

A particular feature of the invention, as described with reference to the several embodiments, is that common framing members may be employed to define a casement vent frame and the frame opening for supporting the vent, wherein the framing members coact with each other to define a narrow, aesthetically pleasing profile when viewed from either side of the wall structure within which the vent is mounted. A further feature of this structure is that these coacting framing members provide for a double sealing arrangement between the vent frame and the vent opening frame. Still another feature of the invention is that the framing members define a box structure wherein the supporting hinges for the vent are enclosed and sealed when the vent is in the closed position, further, contributing to the aesthetic value of the curtain wall structure.

Another feature of the invention is that the same framing members which are useful in fabricating the casement vent frames and opening frames are also suitable for the other framing members or mullions of a curtain wall structure, resulting in economic manufacture of curtain wall components and in fabrication of the curtain wall structure.

Another feature of the invention is that the same common framing members are designed for use with

accessory structures for the purpose of framing panels of various types and thickness in a curtain wall structure such as glass panes and various forms of architectural panels.

While preferred forms of the invention have been illustrated and described, it will be understood by those skilled in the art that changes and modifications may be resorted to without departing from the spirit and scope of the invention. For example, while reference is made to horizontal and vertical mullions and other frame structures, the invention may be embodied as well in structures in which the mullions are disposed at angles relative to the horizontal and to the vertical.

What is claimed is:

1. A curtain wall structure comprising

vertical and horizontal mullions defining at least one bay frame; said mullions comprising elongated framing members;

a vent frame comprising elongated vertical and horizontal framing members;

said framing members for said bay frame and said vent frame being common to each other; each of said common framing members comprising a unitary member of generally L-shaped cross section defined by a side wall and a transverse face wall, said face wall defining a face profile of said member;

and said vent frame being dimensioned to interfit with a bay frame wherein the bay frame face walls and vent frame face walls are disposed in superposed relation whereby said vent frame is substantially merged with said bay frame as viewed from a face of the curtain wall structure, with the distal edges of respective side walls confronting the face walls of the interfitting frame member to define a box frame structure.

2. A curtain wall structure as set forth in claim 1

wherein said box frame structure defines an enclosed chamber for enclosing and concealing an articulating hinge for supporting the vent frame relative to the vent opening frame.

3. A curtain wall structure as set forth in claim 1

wherein the distal edge of a framing member side wall defines an edge wall for confronting sealing engagement with the face wall of an interfitting framing member.

4. A curtain wall structure as set forth in claim 3

including seal strip means mounted on the inner surface of said framing member face wall for sealing engagement with the interfitting edge wall.

5. A curtain wall structure as set forth in claim 1

wherein the framing member side wall includes inner and outer facing longitudinal grooves for providing panel supporting channels in the frames defined by said framing members.

6. A curtain wall construction as set forth in claim 5

wherein said inner facing groove is disposed adjacent to the distal edge of said side wall and is provided with confronting undercut side walls;

and elongated stop members for interlocking engagement with said framing members; said stop members having resilient oppositely facing lips for locking engagement with said undercut inner facing grooves; said stop members providing a face wall opposite from the framing member face wall and defining, with the framing member face wall, a groove providing a panel receiving channel;

and said stop member and framing member defining an edge profile corresponding in width to the edge profile defined by the framing member face wall.

7. A curtain wall structure as set forth in claim 6

wherein said stop member face wall exterior surface defines a continuation of the framing member edge wall.

8. A curtain wall structure as set forth in claim 6

wherein said outer facing groove defines a panel supporting channel adjacent to the face wall;

and wherein said stop member defines, with the face wall, an inner facing panel supporting groove directly opposite said outer facing groove; said stop member coacting with said framing member to define a face wall profile opposing the framing member face wall profile, and a partial side wall opposing the framing member side wall.

9. A curtain wall structure as set forth in claim 1

said structure comprising a plurality of bay frames, defined by said vertical and horizontal mullions, and at least one of said vent frames; and said mullions and said vent frame framing members defining undisturbed profile lines.

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