

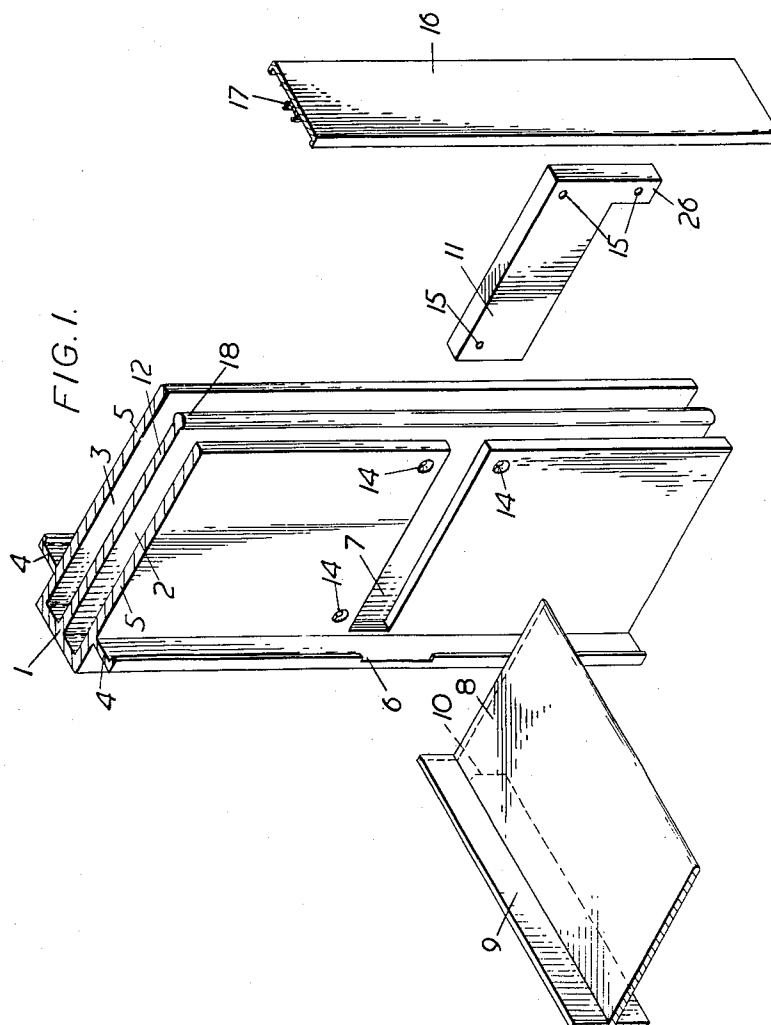
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MEANS FOR MOUNTING WINDOWS OR OTHER COMPONENTS IN BUILDINGS

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3 Sheets-Sheet 1



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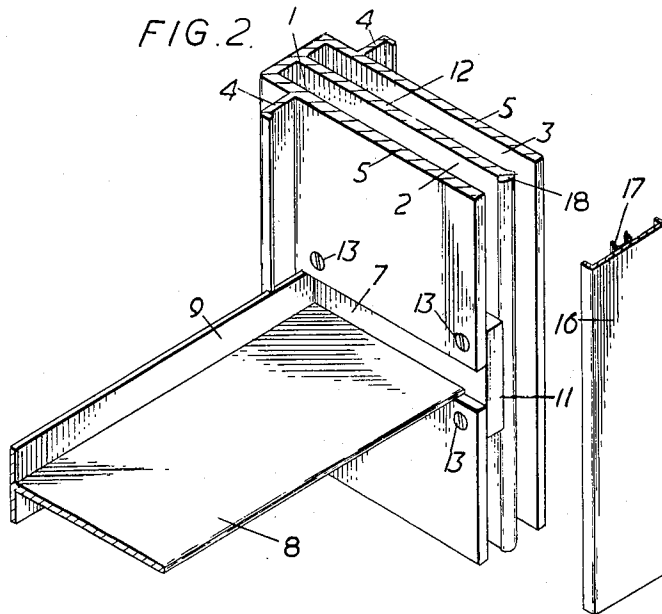
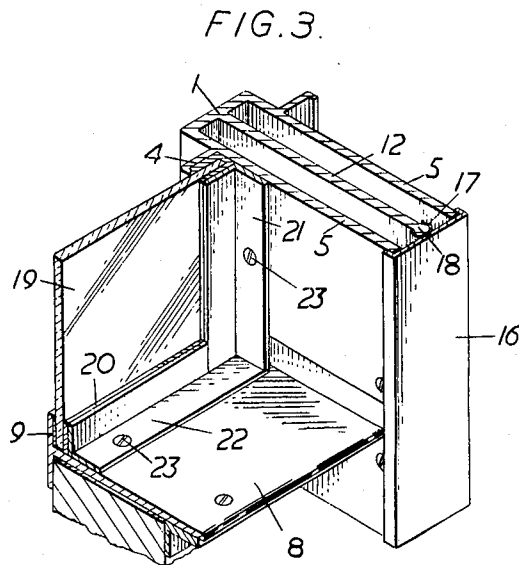
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MEANS FOR MOUNTING WINDOWS OR OTHER COMPONENTS IN BUILDINGS

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3 Sheets-Sheet 2



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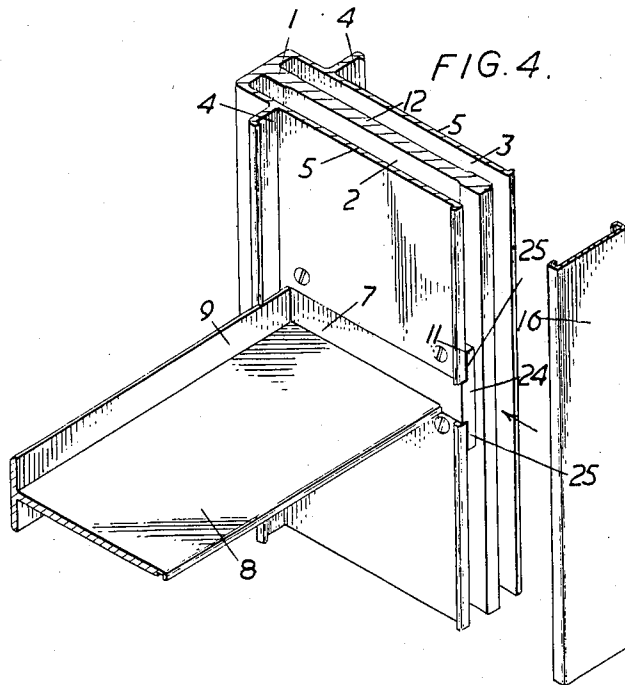
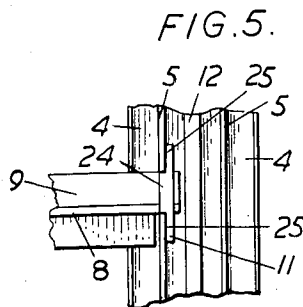
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MEANS FOR MOUNTING WINDOWS OR OTHER COMPONENTS IN BUILDINGS

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3 Sheets-Sheet 3



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MEANS FOR MOUNTING WINDOWS OR OTHER COMPONENTS IN BUILDINGS

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Claims priority, application Great Britain
October 23, 1953

7 Claims. (Cl. 189—76)

This invention relates to means for mounting windows or other components in buildings and has for its object to provide improvements applicable to that type of building which is erected by suspending curtain walling members from a supporting framework, such improvements being designed to facilitate the installation of windows, or other components, and to improve the weather resistant properties of the completed structure.

According to the invention a curtain walling member for use in building construction comprises three spaced vertical components connected along one vertical edge which is adapted to be attached to a fixed framework, the two outer components being slotted or otherwise formed to provide for the attachment thereto of horizontal components which support window frames, wall panels, glass or other components.

According to a preferred form of the invention a curtain walling member for use in building construction comprises three vertical parallel spaced plates, a member connecting three adjacent vertical edges of said plates, side flanges projecting at right angles from the two outer plates, said plates, connecting member and flanges being formed as a unit by extrusion from metal with slots and recesses to receive horizontal components on assembly.

Reference will now be made to the accompanying drawings in which—

Fig. 1 is a perspective view showing the vertical and horizontal components of the improved curtain walling before assembly,

Fig. 2 is a perspective view showing the components of Fig. 1 partly assembled,

Fig. 3 is a perspective view of the complete assembly showing also one form of window mounting,

Fig. 4 is a perspective view of a modified form of construction, and

Fig. 5 is a detail view looking in the direction of the arrow in Fig. 4.

Referring first to Fig. 1 the curtain walling members are formed by extrusion from an aluminium alloy to a double channel shape in cross section, the common base portion 1 of the two adjacent channels 2 and 3 occupying a vertical position on erection and being formed or provided with means for connecting it to the components of a supporting framework of steel or reinforced concrete. Side flanges 4 are formed integral with the outer channel components 5 and project at right angles therefrom at points close to the base 1. These side flanges 4 are of right-angled form in cross section, the outer portions, which lie in planes parallel to the channel components 5 being formed with recesses 6 at intervals in their height. At the level of each recess the adjacent outer channel component 5 is provided with a slot 7 extending from its free edge to a point near the base 1, each recess 6 and slot 7 being adapted to receive a horizontal component.

Each horizontal component generally comprises a plate 8 of rectilinear form having an integral flange 9 along

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one edge which extends above and below the plate. At one end a short length of the lower portion of the flange is cut away at 10 to enable one end of the upper portion of the flange 9 and one end of the plate 8 to be inserted through the slot 7 in the outer channel component 5. The flange 9 then rests in the recess 6 in the outer channel component flange 4. The structure is completed by the insertion of a filling member 11 between the outer channel component 5 and the central channel component 12, the base of the filling member 11 resting upon that portion of the plate 8 which passes through the slot 7 into the space between the two channel components 5 and 12. The components now occupy the positions shown in Fig. 2 and screws or bolts 13 are then passed through holes 14 and 15 in the outer channel component 5 and filling member 11 respectively to secure the filling member in position wherein it serves to seal the slot 7 in the outer channel component. To enable this to be achieved the outer end of the filling member 11 is formed with a downward extension 26 engaged by the screw 13 which passes through the component 5 below the slot 7. The opposite end of the plate 8 is also engaged in a similar manner with another channelled walling member and in the space thus formed between the vertical members a window frame and window of any desired type is inserted and rests upon the plate.

Framed opening windows can be screwed or bolted to either the vertical channelled members or the secondary horizontal ones. In the case of horizontally sliding windows two of the horizontal components may form the top and bottom guides for the sliding frames, and in the case of vertically sliding windows, they may form the head and sill.

All the spaces between the vertical channelled walling members are filled by windows in the manner described but according to the character of the building to which the invention is applied some of the spaces may be occupied by solid infilling panels or by doors where necessary.

The channelled walling members project on the exterior of the building with their open ends directed outwardly and the structure is completed by the addition of a cover plate 16 of channel shape in cross section. The complete assembly is shown in Fig. 3. To enable the cover plate to engage closely with the channelled members, it may conveniently be provided internally with a channel member 17 of spring metal adapted to engage around the edge of the central channel component 12 whose edge is slightly enlarged as shown at 18 to form rounded surfaces for engagement by the member 17.

Fig. 3 also shows one example of a window mounting in the wall structure according to the invention. In the arrangement shown the edges of a glass pane 19 are engaged by channel-section members 20, the inner surfaces of which abut against the flanges 4 and 9. The glass is held in that position by angle members 21 and 22 secured to the adjacent member 5 and to the plate 8 respectively by screws 23. Any other means can be employed, however, for fixing window glass in position such as by the use of putty or a combination of putty and the mechanical means shown in Fig. 3.

In the modified construction shown in Figs. 4 and 5 provision is made for sealing the joint between the vertical members 5 and the horizontal plate 8. This sealing is effected by forming the filling member 11 with a central portion 24 of increased thickness, which portion engages in the slot 7 as shown in Fig. 4. Between the surfaces on either side of the portion 24 and the adjacent inner surface of the channel component 5 are disposed layers 25 of waterproof mastic material which are compressed to form a seal when the screws 13 are tightened to secure the filling member 11 in position.

The constructions above described possess the advan-

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tage that moisture will run off the outer edges of the plates 8 (which may be given a slight downward and outward inclination if desired) and that any moisture penetrating to the interiors of the channelled members will fall to the bases thereof.

In some instances a single channel member may be utilised at the end of a wall but at the corner of a building these members may be attached to the two inner surfaces of a square-sectioned vertical component of the supporting framework.

I claim:

1. A curtain walling member for use in building construction comprising three spaced vertical components connected along one vertical edge which is adapted to be attached to a fixed framework, the two outer components being slotted or otherwise formed to provide for the attachment thereto of horizontal components which support window frames, wall panels, glass or other components.

2. A curtain walling member for use in building construction comprising three vertical parallel spaced plates, a member connecting three adjacent vertical edges of said plates, side flanges projecting at right angles from the two outer plates, said plates, connecting member and flanges being formed as a unit by extrusion from metal with slots and recesses to receive horizontal components on assembly.

3. A curtain walling member according to claim 1 wherein each outer vertical component is formed or provided at a point near the connection of the three com-

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ponents with a vertical angled flange recessed to receive a vertical flange on the horizontal plate.

4. A curtain walling member according to claim 1, wherein the assembly is completed by the addition of a cover plate constructed to engage the free edges of the vertical components.

5. A curtain walling member according to claim 2 wherein means are provided for forming a waterproof seal between the said filling member and the adjacent inner surface of a vertical component.

6. A curtain walling member for use in building construction comprising three spaced vertical components connected together along one vertical edge which is adapted to be attached to a fixed framework, a horizontal plate having a vertical flange along one edge adapted to engage an outer vertical component and to be inserted through a horizontal slot in said component, a filling member inserted between the said outer vertical component and the inner vertical component to rest upon said plate and means for securing said filling member to said outer vertical component.

7. A curtain walling member according to claim 1 the said assembly being completed by the addition of a cover plate constructed to engage the free edges of the vertical components, the internal surface of the said cover plate being provided with resilient means for engaging the edge of the central vertical component.

No references cited.