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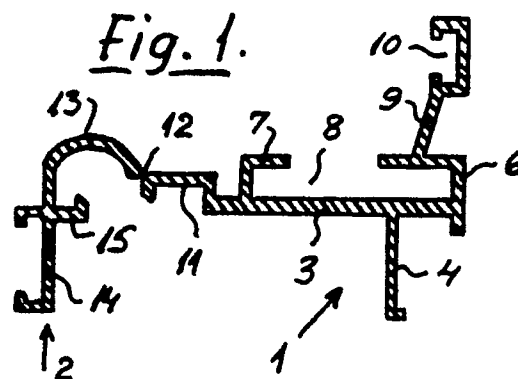
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(54) **Method of producing frames for polygonal panels.**

(57) In the production of frames for panels and consisting of extruded frame members (1) to be mitre joined at the corners and having flanges (4) protruding towards the middle of the frame to form one side of a panel receiving groove, the other side of said groove being constituted by glazing beads (2) to be mounted after the positioning of the panel and which by hook engagement (11, 15) are fixed to the corresponding frame members, frame members and glazing beads are extruded as an integral profile with a breakable connection (12) between said two sections. Said breakable connection is kept intact until the profile by mitre cuttings has been divided into individual pieces of a desired length.



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A METHOD OF PRODUCING FRAMES FOR POLYGONAL PANELS.

The invention relates to a method of producing frames for polygonal panels, such as rectangular multipane glass, and composed of frame members cut from an extruded profile rod and mitre joined at the frame corners and having a body with a flange protruding towards the middle of the frame to form one side of a groove serving to receive the panel, the other side of said groove being constituted by glazing beads provided with a hook section to engage a corresponding hook section on the profile body after the panel has been positioned and which are likewise mitred at the ends and include an abutment flange extending in its position of engagement across the profile body somewhat past the point of engagement and abutting on the side of the body facing away from the groove.

In the production of such panels it is commonplace to cut the necessary frame members and glazing beads from a respective one of extruded profile rods, e.g. of aluminium. The frame members are corner joined by welding or by means of appropriate fittings and after the panel has been arranged against an adequately resilient gasket in a plane positioned on the flanges of the frame members, the mounting of the glazing beads is effected, which due to the hook engagement and the support flange urge the panel firmly against the gasket and is itself locked to the corresponding frame members. The use of this technique requires two cuttings to length to be effected for either panel side, viz. of the frame member and of the glazing bead, resp., and particularly the cutting of the glazing beads must be carried out with an extreme exactitude, because it is impossible to mount a glazing bead only a little too long in the intended manner, while the use of too short glazing beads will leave undesired wide joint spacings at the frame corners.

The invention relates to a method providing a simplification of the flow of work, in particular by making the separate cutting to length of the glazing beads superfluous.

This is obtained in that frame members and glazing beads are extruded as a continuous profile rod in which the flange of the profile body and the glazing bead are at any rate substantially parallel and which has a breakable connection located between the glazing bead and the frame member, said connection being kept intact until the profile rod has been mitre cut.

In this case a frame member and the associated glazing bead are cut to length in one and the same operation, thereby automatically ensuring that the glazing bead obtains exactly the desired length in relation to the frame member. Moreover, the glazing bead may remain integral with the

frame member until the mounting of the panel, thereby practically eliminating the risk of unintentional interchange between two glazing beads that are not equally long. The fact that the flange and the glazing bead of the profile body must be fully or almost parallel in the extruded profile rod is due to the circumstance that the performing of the hook engagement then merely necessitates a parallel displacement of the glazing bead perpendicular to the plane of the panel in relation to the frame member, meaning that the bevelled end faces or mitre faces of the glazing bead are displaced in their own planes which are the same as the planes of the mitre faces of the frame member. This is a prerequisite of obtaining that the glazing beads cut to length together with the frame members can fit exactly at the corners of the completed panel when it is desired to have tight corner joints. However, it is also possible to obtain corner joints that are a little open, e.g. corner joints serving as drain grooves between the glazing beads, viz. by extruding the profile rod with a small divergence from complete parallelism between the body flange and the glazing bead.

According to the invention it is preferred that the breakable connection is placed between the free edge of the flange of the glazing bead and the profile body at the hook section thereof. A comparatively uncomplicated extrusion nozzle may thus be used in the production of the profile rod.

The invention will now be explained by an embodiment with reference to the accompanying drawings, in which

Fig. 1 is a cross-section of an extruded profile rod with a frame member section and a glazing bead section,

Fig. 2 is a similar cross-section after separation of the two sections,

Fig. 3 a further, similar cross-section after the two sections have been joined about the edge of a panel member indicated in dot-and-dash lines, Fig. 4 the extruded profile rod, viewed from the left in Fig. 1 and with two consecutive mitre cuttings, the glazing bead section and the frame member section being illustrated in solid and dotted lines, resp., while the waste material between the mitre cuttings is shown in dot-and-dash lines, and

Fig. 5 is a view corresponding to Fig. 4 of a completed frame corner.

The profile rod in Fig. 1 consists of aluminium or any other appropriate material and includes a frame member section 1 and a glazing bead section 2. Section 1 has a body 3 with a flange 4 perpendicular to its underside and which in the

completed frame shall constitute the one side of a groove to receive the edge of a panel 5, Fig. 3, which e.g. may be a rectangular pane with two or more plies of glass.

In the illustrated embodiment body 3 has on its top side a pair of angular flanges 6 and 7 constituting a so-called mounting slot 8 for receiving e.g. corner angle fittings and hinge and closure fittings, one of the angular flanges carrying an external cover flange 9 having a gasket spline 10. In the direction to the left, body 3 terminates in a hook portion 11 which through a breakable connection 12 is integral with the free edge of a cross-sectionally arched flange 13 on the glazing bead section 2, the head portion or body 14 of which form the other side of the above mentioned panel groove and carries a hook portion 15 below flange 13.

After the profile rod 1, 2 has been cut into pairwise bevelled cuttings or mitre cuttings 16, Fig. 4, glazing beads 2 may be broken off from frame members 1, Fig. 2, prior to or after their being assembled into a frame, in which panel 5 may be positioned against an appropriate gasket 17, e.g. a two-sided adhesive tape, on flanges 4, Fig. 3. The frame may then be completed in that the glazing bead is urged against panel 5 until hook portions 11 and 15 engage each other. During this movement the free edge of glazing bead flange 13 slides inwards on the top side of hook portion 11 of profile body 3 and in the final position the two parts are kept tightened against each other due to the pressure exerted by gasket 17 and a possible further gasket 18 on the glazing bead. The curved cross-sectional form of flange 13 makes room for a small tilting of the glazing bead while being displaced to the position in Fig. 3, so that the upwards directed end edge of hook 15 may be passed by the corresponding edge of hook portion 11, following which it may be tilted up into the position of engagement.

While sections 1 and 2 are still coherent the lower edges of body flange 4 and glazing bead 14 are advantageously in a plane parallel to the profile body. In that case the lower edges may by abutment on a plane surface contribute to correctly controlling the profile rod while effecting the mitre cutting.

Claims

1. A method of producing frames for polygonal panels (5), such as rectangular multi-pane glass, and composed of frame members (1) cut from an extruded profile rod and mitre joined at the frame corners and having a body (3) with a flange (4) protruding towards the middle of the frame to form one side of a groove serving to receive the panel,

the other side of said groove being constituted by glazing beads (14) provided with a hook section (15) to engage a corresponding hook section (11) on the profile body (3) after the panel has been positioned and which are likewise mitred at the ends and include an abutment flange (13) extending in its position of engagement across the profile body somewhat past the point of engagement and abutting on the side of the body facing away from the groove, characterized in that frame members (1) and glazing beads (14) are extruded as a continuous profile rod in which the flange (4) of the profile body and the glazing bead are at any rate substantially parallel and which has a breakable connection (12) located between the glazing bead (14) and the frame member (1), said connection being kept intact until the profile rod has been mitre cut.

2. A method as claimed in claim 1, characterized in that the breakable connection is placed between the free edge of the flange (13) of the glazing bead and the profile body (3) at the hook section (11) thereof.

3. A method as claimed in claim 1, characterized in that the glazing bead flange (13) has an arched cross-section, the concave side facing towards the hook section (25) of the bead.

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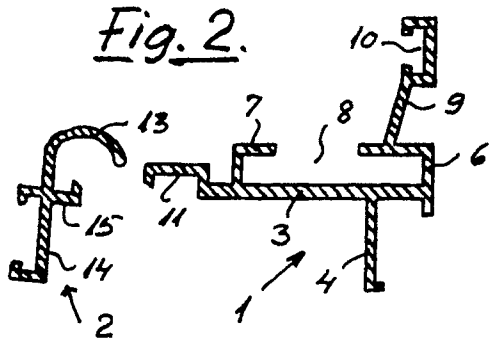
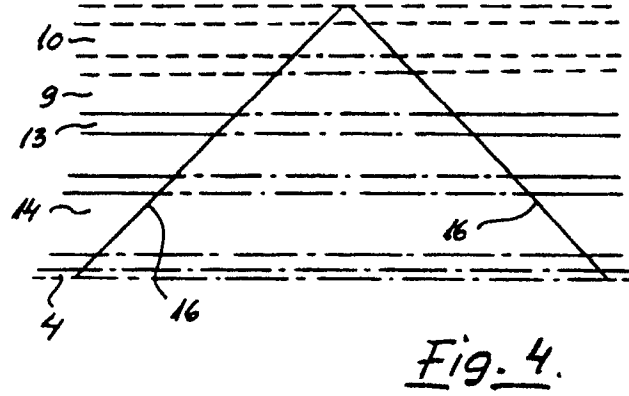
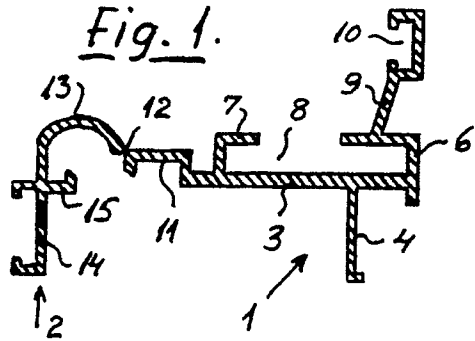
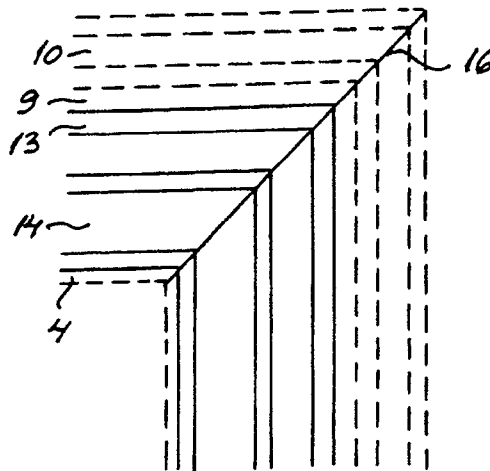
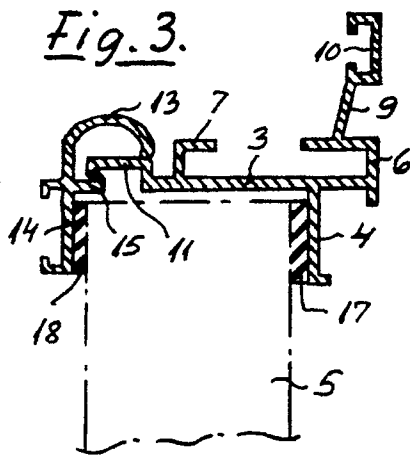


Fig. 5.





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EUROPEAN SEARCH REPORT

Application Number

EP 90 61 0059

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.5)
X,Y	US-A-3 455 080 (MEADOWS) * column 2, line 31 - column 5, line 17 ** column 6, lines 16 - 40; figures 1-4 * - - -	1,2,3	E 06 B 3/58 E 06 B 3/06
Y	BE-A-6 653 41 (ARND) * page 5, paragraph 2; figures 2, 3 * - - -	3	
A	GB-A-2 107 775 (MILLER) * page 1, line 49 - page 2, line 82; figures 1-11 * - - -	1	
A	US-A-3 918 231 (KESSLER) * column 1, line 60 - column 2, line 32; figure 2 * - - - - -	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			E 06 B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of search 21 December 90	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			