(12) UK Patent Application (19) GB (11) 2 282 401 (13) A

(43) Date of A Publication 05.04.1995

(21) Application No 9318558.5

(22) Date of Filing 08.09.1993

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(51) INT CL^6
E06B 1/28 3/22 3/58

(52) UK CL (Edition N)
E1J JGD
E1R RRQ RR26

(56) Documents Cited
GB 2264740 A

(58) Field of Search
UK CL (Edition M) **E1J JGD**
INT CL^5 **E06B**

(54) Extruded frame section

(57) A fixed rectangular frame in which a fixed window unit and an openable window sash unit can be mounted, said frame having a bottom horizontal frame member 10 of hollow extruded material which has a generally L-shaped profile as seen in end view with an upright limb of the L-profile forming an upstand 11 and with the upper surface of the flange 12 of the profile forming a base on which can be mounted the lower horizontal frame member of a fixed window unit and the lower horizontal frame member of an openable sash unit (18, figure 4), in which: a longitudinal groove 17 is formed in said base adjacent a longitudinal edge of the base 13 remote from the upstand, said groove serving to receive a seal, bead or the like to cooperate with the lower closing face of a horizontal frame member of an openable sash unit; a first elongate mounting clip 19 is securable to said groove at a position corresponding to a required installation of a fixed window unit 15 in order to form part of the mounting of one side of the lower edge of the fixed unit; and, a second elongate mounting clip 21 is securable to said upstand and operative to hold the opposite side of the lower edge of the fixed unit.

In a further embodiment (figure 5), an aluminium section (30) is secured in place to reduce the gap between bead (21d) and fixed unit (15) due to imperfect manufacture.

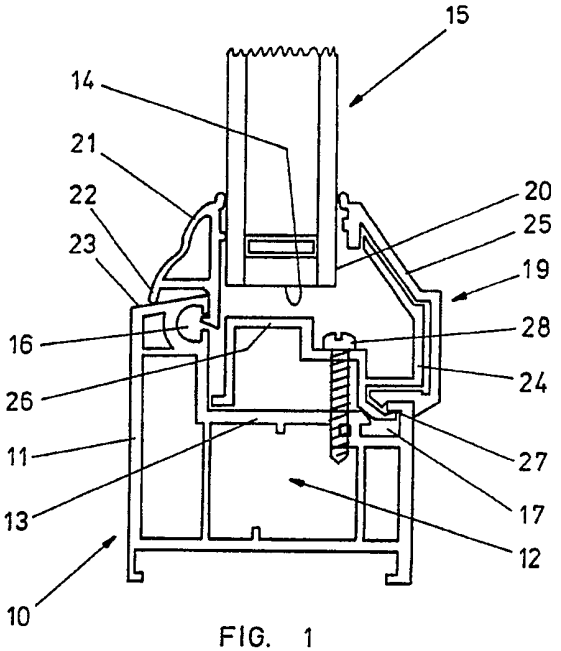

FIG. 1

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1990.

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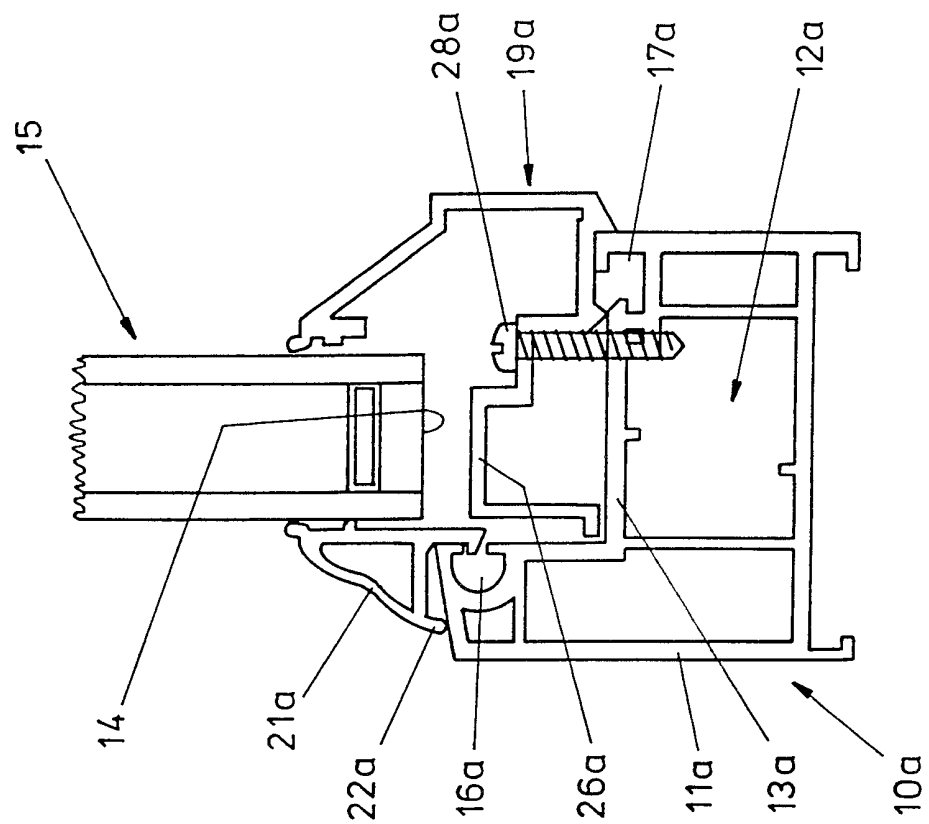
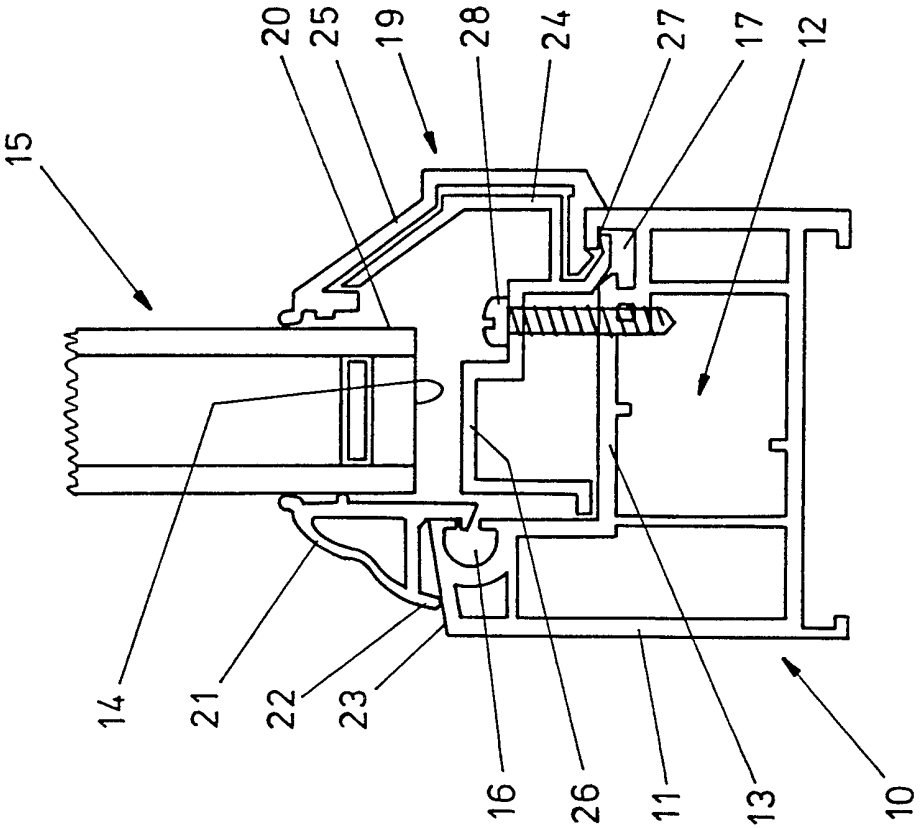

28a
19a
17a
12a
15
14
21a
22a
16a
26a
11a
13a
10a

FIG. 2


20
25
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24
27
17
12
15
14
21
22
23
16
26
11
13
10

FIG. 1

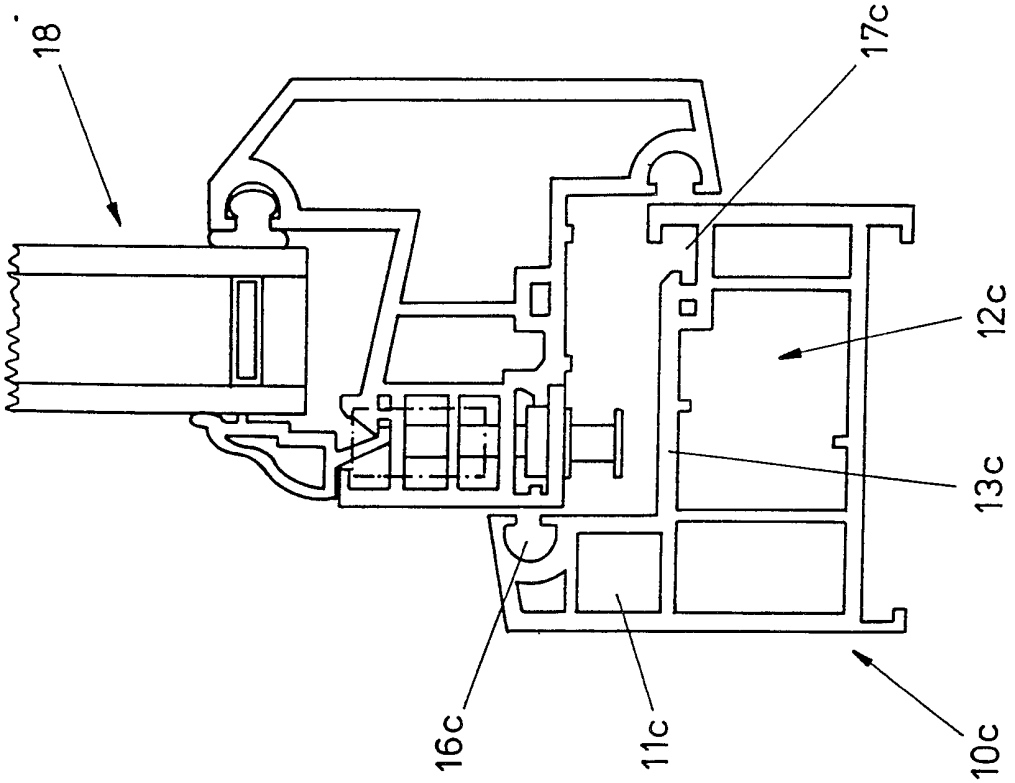
18
17c
12c
13c
16c
11c
10c

FIG. 4

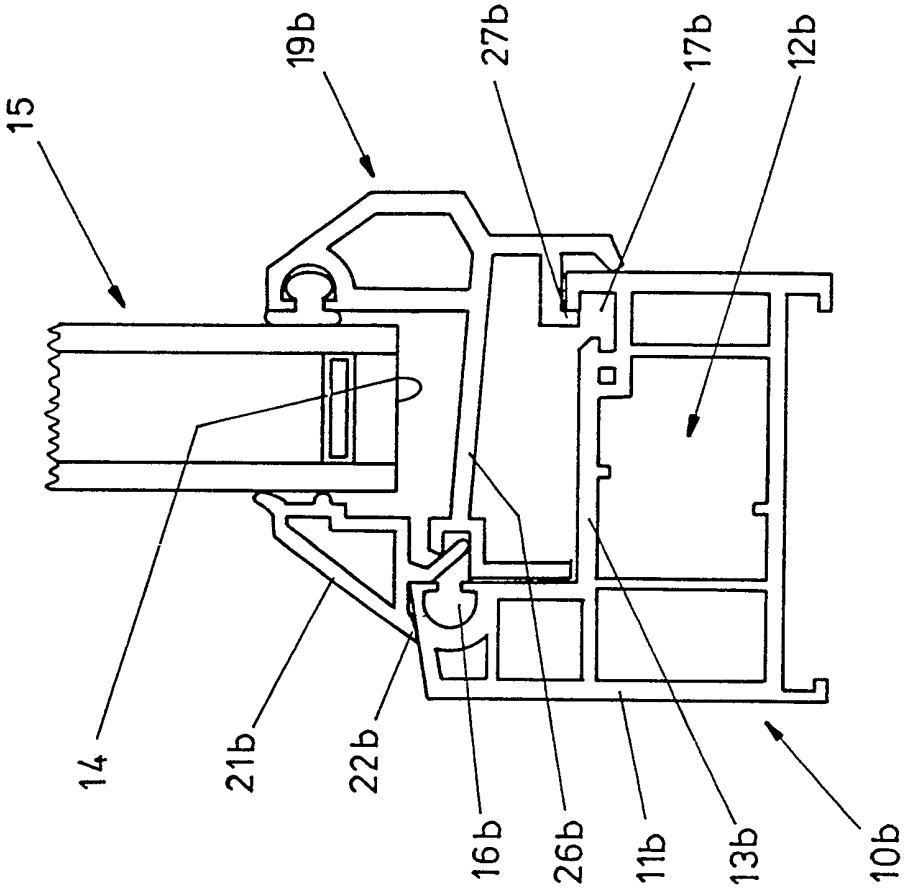
15
19b
27b
17b
12b
14
21b
22b
16b
26b
11b
13b
10b

FIG. 3

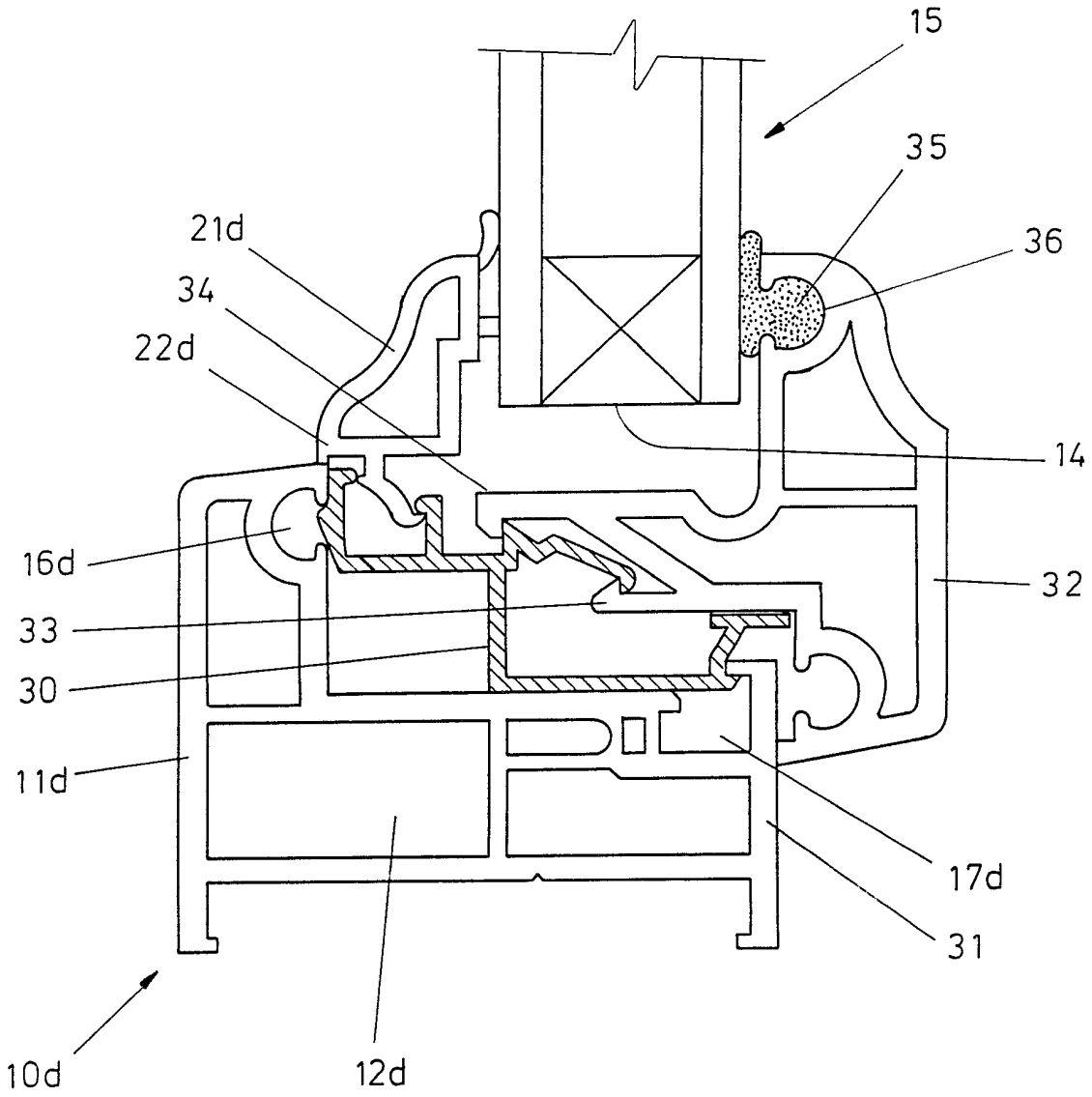

FIG. 5

EXTRUDED FRAME SECTION

This invention relates to extruded window frame sections assembled to form a rectangular frame in which a fixed window unit and an openable sash window unit can be mounted.

Extruded window frame sections of UPVC are used widely to form fixed rectangular frames in which fixed and openable sash window units can be mounted, and the rectangular frame is often sub-divided into separate rectangular sub-frames by use of mullions and transoms, and with fixed and openable window units mounted in each sub-frame according to requirements.

One existing design of bottom horizontal frame member of a fixed rectangular frame is formed of a hollow extrusion having a generally L-shaped profile, as seen in end view, with the upright limb of the L-profile forming a usual "upstand" located on the inner side of the extrusion i.e. the side facing internally of a building in which it is mounted, and with the upper surface of the horizontal flange of the L-profile forming a base on which a fixed glazed unit can be mounted, or serving to co-operate with the lower horizontal frame member of an openable (sash) window unit.

In view of the different types of co-operation which must be provided between the bottom horizontal frame member of the fixed frame and (a) a fixed window unit and (b) an openable sash window unit, it would be desirable to be able to use a common design of profile of the bottom horizontal fixed frame member i.e. to use a standard design profile, and to provide a simple fixed attachment to the frame member at position(s) corresponding to a fixed window unit installation, while leaving the remainder of the profile unaltered and suitable to co-operate with the lower frame member of an openable sash window unit.

Accordingly, the invention provides a fixed rectangular frame in which a fixed window unit and an openable window sash unit can be mounted, said frame having a bottom

horizontal frame member of hollow extruded material which has a generally L-shaped profile as seen in end view with an upright limb of the L-profile forming an upstand and with the upper surface of the flange of the profile forming a base on which can be mounted the lower horizontal frame member of a fixed window unit and the lower horizontal frame member of an openable sash unit, in which:

a longitudinal groove is formed in said base adjacent a longitudinal edge of the base remote from the upstand, said groove serving to receive a seal, bead or the like to co-operate with the lower closing face of a horizontal frame member of an openable sash unit;

a first elongate mounting clip is securable to said groove at a position corresponding to a required installation of a fixed window unit in order to form part of the mounting of one side of the lower edge of the fixed unit; and,

a second elongate mounting clip is securable to said upstand and operative to hold the opposite side of the lower edge of the fixed unit.

Accordingly, the L-shaped profile of the lower frame member of the fixed frame can have an openable sash unit mounted readily at a required position on it, without any modification of the profile, apart from fitting of usual seals in grooves formed in the extruded profile for this purpose, whereas the profile is simply modified at locations corresponding to required installation of fixed units by mounting of the first and second mounting clips on the profile.

The openable sash window will be of the open-out type, and the fixed window unit will be of the "inside" glazed type i.e. in which the glazed unit is first presented from the inside to rest against the first mounting clip, and then the mounting is completed by fixing of the second mounting clip in position. The first mounting clip will be permanently secured in position e.g. by use of concealed or not readily accessible fasteners, and this provides a deterrent to intruders as the perceived more readily overcome removable

mounting clip (the second clip) is arranged internally of the window and remote from access to an intruder.

An embodiment of fixed window frame according to the invention will now be described in detail, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is an end view of a hollow extruded plastics profile comprising a lower horizontal frame member in which a fixed window unit is mounted;

Figure 2 is a view, similar to Figure 1, showing a second type of attachment to the profile, in which a fixed window unit can be mounted;

Figure 3 is a further end view, similar to Figures 1 and 2, of a third type of mounting clip attachment to a lower extruded frame member of a fixed rectangular frame;

Figure 4 is an end view, similar to Figures 1 to 3, showing how an open-out window sash unit can be mounted on a hollow extruded profile forming a horizontal fixed frame member; and,

Figure 5 is a view of a modification of the arrangement shown in Figure 3, and forming a preferred embodiment of the present invention.

Referring first to Figures 1 to 4 of the drawings, there will be described a fixed rectangular frame in which a fixed window unit and an openable window sash unit can be mounted, with the frame having a bottom horizontal frame member of hollow extruded material as shown in any one of the constructions shown in Figures 1 to 4. As can be seen, each profile has a generally L-shaped profile as seen in end view, with an upright limb of the L-profile forming an upstand and with the upper surface of the flange of the profile forming a base on which can be mounted the lower horizontal frame member of a fixed frame window unit and the lower horizontal frame member of an openable sash unit.

Referring first to Figure 1, the fixed horizontal frame member is designated generally by reference 10 and has inner upstand 11, and a hollow flange portion 12 provided with a horizontal base 13 on which the lower edge 14 of a fixed

glazed window unit 15 can be mounted.

The profiles shown in Figures 1 to 4 differ from one another, but are generally standard profile sections for use as fixed frame members of fixed window frames. Corresponding parts are designated by the same reference numerals, but with the addition of the letters a, b and c in Figures 2, 3 and 4 respectively.

Frame member 10 shown in Figure 1 has a known groove 16 formed in the face of upstand 11 to receive a seal for co-operation with an openable window unit, and also a groove 17 for a similar purpose and extending along one edge of base 13 remote from upstand 11. Figure 1 shows the mounting of a fixed window unit 15 on frame member 10, and this will be at any required position along its length, but at any other required position(s) along its length an openable sash window unit can be mounted, as will become apparent by subsequent detailed description with reference to Figure 4 of the drawings.

Referring now to Figure 4, this shows an openable sash window unit 18 in a closed position with respect to base 13c of frame profile section 10c, though with seals, beads or the like to be fitted in groove 16c and 17c omitted.

The constructions shown in Figures 1 to 4 provide first and second mounting clips which can be secured to the profiles, at any required positions along their lengths, to enable the profiles to have fixed window units 15 mounted thereon at required installation positions. However, at positions where openable sash window units are to be mounted, the mounting clips can be omitted.

Referring back to Figure 1 of the drawings, a first elongate mounting clip 19 can be secured to groove 17 at a position corresponding to the required installation of fixed window unit 15, and forms part of the mounting of one side 20 of the lower edge 14 of the glazed unit. A second elongate mounting clip 21 is fitted to the upstand 11 by latching into groove 16, and reacting via flange 22 on the sloping shoulder 23 of upstand 11, to complete the mounting of the window unit

15. Window unit 15 will be mounted from internally of the building, by being placed against first mounting clip 19, and thereafter second mounting clip 21 will be snapped into position to complete the assembly.

Mounting clip 19 comprises a rigid core section 24 which may be made of aluminium, and on which a decorative cladding section 25 is mounted.

As can be seen in Figure 1, clip section 24 comprises a unitary extension of a generally top-hat section 26 which fits on base 13, and has a flange 27 which fits into groove 17. Fastener screws 28 can be used to hold-down securely the entire assembly on base 13. Desirably, the screws 28 should be located out of reach of any tool which may be used by an intruder to force open the assembly.

Therefore, the L-shaped profile of the lower frame member can have an openable sash unit mounted readily at a required position on it, without any modification of the profile, as shown in Figure 4, apart from fitting of any usual seals, beads or the like in grooves formed in the extruded profile for this purpose. However, at locations corresponding to required installation for fixed units, the profile can be readily modified by mounting of the first and second mounting clips on the profile as shown in Figures 1 to 3.

Referring now to Figure 5 of the drawings, there is shown a preferred embodiment of the invention, which comprises a modification of the fixed sash frame installation of Figure 3. Corresponding parts are designated by the same reference numerals, but with the addition of the letter d.

Figure 5 shows a further fixed sash installation, and seeks to improve certain technical problems which may arise, owing to manufacturing tolerances, in the assembly of the construction shown in Figure 3.

Thus, in the manufacture of the construction shown in Figure 3, there may be problems in achieving proper assembly of bead 22b, with unacceptable clearance gaps resulting, by reason of manufacturing tolerances in the manufacture of the

profile section 19b, and in the manufacture of the base fixed frame member 12b. A clearance gap in the assembly of bead 21b against the glazed unit is both technically and aesthetically undesirable.

The construction shown in Figure 5 seeks to overcome this problem (which may arise in practice due to imperfect manufacture of the structure shown in Figure 3), and provides an aluminium section which fits onto the base frame section 12d, and which is shown by reference 30. The section 30 is shown by shaded section in Figure 5, and extends substantially throughout the width of the base frame section 12d between the inner upstand 11d at one side of the section and towards the opposite side of the section.

The section 30 can be readily secured in position by fastening screws or the like (not shown), and can be arranged to but tightly against the upstand 11d, and also snap-fit tightly against the opposed outer side 31 of the base section. An outer bead section 32 can then fit tightly on the base section, engaging the outer side 31, and also snap-fitting into engagement with the insert section 30 via hooked ends 33 and 34, so that a rigid assembly can be obtained, without any undesirable clearance gaps appearing. Further, the section 32 engages tightly against the outer face of the glazed unit 15 via a dead 35 received by a groove 36 provided at the upper end of the section 32. This holds the glazed unit 15 tightly between bead 35 and the bead 21d.

The embodiment of Figure 5, which is a preferred embodiment of the present invention, therefore provides a substantially clearance free assembly, which is technically advantageous, and also provides an aesthetically pleasing visual appearance.

CLAIMS

1. A fixed rectangular frame in which a fixed window unit and an openable window sash unit can be mounted, said frame having a bottom horizontal frame member of hollow extruded material which has a generally L-shaped profile as seen in end view with an upright limb of the L-profile forming an upstand and with the upper surface of the flange of the profile forming a base on which can be mounted the lower horizontal frame member of a fixed window unit and the lower horizontal frame member of an openable sash unit, in which:

a longitudinal groove is formed in said base adjacent a longitudinal edge of the base remote from the upstand, said groove serving to receive a seal, bead or the like to co-operate with the lower closing face of a horizontal frame member of an openable sash unit;

a first elongate mounting clip is securable to said groove at a position corresponding to a required installation of a fixed window unit in order to form part of the mounting of one side of the lower edge of the fixed unit; and,

a second elongate mounting clip is securable to said upstand and operative to hold the opposite side of the lower edge of the fixed unit.

2. A frame according to claim 1, in which an openable sash unit is mounted on the L-shaped profile of the lower frame member of the fixed frame.

3. A frame according to claim 2, in which the openable sash unit is of the open-out type, and including a fixed window unit also mounted in said frame, said fixed window unit being of the "inside" glazed type.

4. A frame according to any one of claims 1 to 3, in which said first mounting clip is permanently secured in position, and said second elongate mounting clip is arranged internally of the frame.

5. A frame according to claim 1 and substantially as hereinbefore described with reference to, and as shown in

figure 5 of the accompanying drawings.

Patents Act 1977
Ex iner's report to the Comptroller under Section 17
(The Search report)

-9-

Application number
GB 9318558.5

Relevant Technical Fields

(i) UK Cl (Ed.M) E1J: JGD

(ii) Int Cl (Ed.5) E06B

Search Examiner
JOHN ROWLATT

Date of completion of Search
21 DECEMBER 1994

Databases (see below)
(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii)

Documents considered relevant following a search in respect of Claims :-
1-4

Categories of documents

X: Document indicating lack of novelty or of inventive step.

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A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages	Relevant to claim(s)
X,E	GB 2264740 A (E M H Scholes) whole document especially relevant	1-4

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).