(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 438 983 A1**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **90830535.2**

(51) Int. Cl.[5]: **E06B 3/08**

(22) Date of filing: **20.11.90**

(30) Priority: **26.01.90 IT 1916890**

(43) Date of publication of application:
31.07.91 Bulletin 91/31

(84) Designated Contracting States:
AT BE CH DE DK ES FR GB GR LI LU NL SE

(71) Applicant: **METRA METALLURGICA TRAFILATI ALLUMINIO S.p.A.**
Via Provinciale Stacca, 1
I-25050 Rodengo Saiano (Brescia)(IT)

(72) Inventor: **Giacomelli, Mario, Metra Metall. Trafilati**
Alluminio S.p.A., Via Provinciale Stacca 1
I-25050 Rodengo Saiano (Brescia)(IT)

(74) Representative: **Cicogna, Franco**
Ufficio Internazionale Brevetti Dott.Prof. Franco Cicogna Via Visconti di Modrone, 14/A
I-20122 Milano(IT)

(54) Section member assembly for making window and door frames.

(57) The present invention relates to a section member assembly for making window and door frames in general, characterized in that said assembly comprises: flat section members (1,20) without any ridge abutment means, for making flat window and door frame surfaces; section members for the frame wings, which can be used for forming a fixed frame and a movable frame, with an inner top therefor , box-like section members, having a box-like section member body including a recess which is partially embedded in the box like body, which section members can be coupled to other cooperating section members for forming flat surfaces on the two faces of the window or door frames.

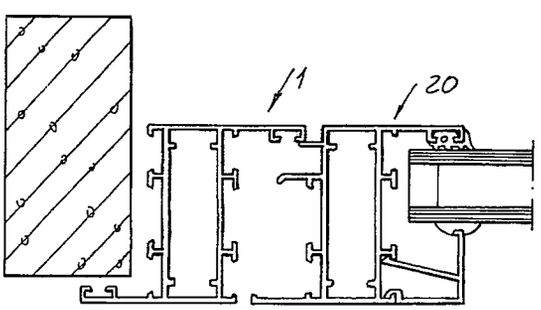

FIG. 7

EP 0 438 983 A1

SECTION MEMBER ASSEMBLY FOR MAKING WINDOW AND DOOR FRAMES

BACKGROUND OF THE INVENTION

The present invention relates to a section member assembly for making window and door frames.

As is know, several section member assemblies have been already designed which are made generally of an extruded aluminium material and are used for making window and door frames in general.

The above mentioned known section members have the drawback that they are scarcely flexible, that is they do not afford the possibility of making, with a given section member assembly, a lot of different window and door frames.

Another drawback of these known extruded aluminium section members is that, in order to achieve a proper mechanical strength, these section members require a lot of expensive material.

SUMMARY OF THE INVENTION

Accordingly, the aim of the present invention is to overcome the above mentioned drawbacks by providing a section member assembly for making window and door frames in general, the section members of which afford the possibility of making window and door frames of very reduced cost but provided with very good technical and aesthetical characteristics.

Within the scope of the above mentioned aim, a main object of the present invention is to provide such a section member assembly the section members of which are adapted to afford the possibility of making window and door frames having coplanar surfaces on one or both faces of the frame or, possibly, with the cooperation of a top frame member, for example having an extension of 8 millimeters, of the movable part of the frame with respect to the fixed part thereof.

Another object of the present invention is to provide such a section member assembly the section members of which afford the possibility of easily and quickly making different sizes of window and door frames.

Yet another object of the present invention is to provide such a section member assembly the section members of which afford the possibility of easily restraining glass plates, of any desired size, as well as using hinge assemblies which do not require any complex or addition operations during the applications thereof to the outside.

According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a section member assembly for making window and door frames in general, characterized in that said section member assembly comprises flat section members without any ridge abutments, for making flat window and door frame surfaces; section members for providing window and door frame wings, which are adapted to be used either for a fixed frame or for a movable frame having an inner top, box-like body section members, including a box-like body having a partially recessed housing, which section members can be coupled to other cooperating section members in order to provide flat surfaces on the two faces of the window or door frames.

BRIEF DESCRIPTION OF THE DRAWINGS

Further characteristics and advantages of the invention will become more apparent from the follwing detailed disclosure of a preferred embodiment thereof which is illustrated, by way of an indicative but not limitative example, in the accompanying drawings, where:

Figures 1 and 1A respectively show a movable frame section member and a fixed frame section member, there being moreover indicated the related size;

Figures 2 and 3A respectively show an enlarged section member for a movable frame and a fixed frame, there being moreover indicated the size values of this section member;

Figures 3 and 3A show a movable frame section member for window or door frames devoid of any top portions, there being moreover indicated the size values of this section member;

Figures 4 and 4A show a section member for making two-or three-wing windows, to be inward opened, there being moreover indicated the size values of this section member;

Figures 5 and 5A show an upright section member with its size value;

Figures 6 and 6A show an enlarged section member upright as well as an upright provided with size values therefor;

Figures 7 and 7A schematically show a window or door frame having a coplanar abutment, and the same window or door frame including size values therefor;

Figures 8 and 8A show a detail of a window or door frame provided with a top closure, and also show the same window or door frame having size values therefor;

and;

Figures 9 and 9A show a window frame of the inward openable type provided either with two or

three window wings, and also show the same window frame including size values therefor.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the schematic figures of the accompanying drawings, figures 1 and 1A respectively show a movable frame section member and a fixed frame section member, indicated overally at the reference number 1, including a central body 2 which, on its small sides, is provided with opposite legs 3 which end with recesses or housings 4.

Figures 2 and 2A show an enlarged type of movable frame and fixed frame section member, which is indicated at 10, and is provided with an enlarged central body 11 including opposite legs also indicated at 3.

The bodies 2 and 11 are provided, on opposite sides thereof, with lugs 5 providing corresponding recesses for the application of fittings such as glass restraining stop elements and the like.

Figures 3 and 3A show a movable frame section member 20, for making coplanar section members, which is provided with a box-like central body 21 including, on its small side, an abutment leg 22 having a gasket recess 23, whereas, on the opposite side thereof, there is provided an opposite leg 24 which ends with an in-turned portion 25.

On its corresponding side, the box-like body 21 is provided with a further lug 26, having a small tooth 27 for defining a recess, as well as a portion 28 spaced from the lug 26.

Figures 4 and 4A show a section member 30 for making an inward openable window, of the two or three wing type, which has the main feature of including a shaped box-like central body, indicated at 31, to which there is coupled, on a side, a leg 32 including a gasket recess 33.

The main feature is that, at an intermediate portion of the central box-like body 31, there is provided a partially recessed housing 34 whilst, on the opposite side thereof, there are provided spacer portions 35 which allow the section member 30 to be quickly and easily coupled to other cooperating section members, as is clearly shown in figures 9 and 9A.

Figures 5 and 5A show an upright, indicated at 40, provided with a central body 41 including aligned legs 42 which in turn comprise gasket recesses 43.

Likewise, figures 6 and 6A show an upright 50 having an enlarged central body 51, and substantially of the same type as the section member 40.

As shown in figures 7, 8 and 9, the above disclosed section members can be differently coupled, so as to provide a lot of different types of couplings.

Thus, for example, in figures 7 and 7A there have been coupled a section member 1 and a section member 30 so as to provide a window or door frame having coplanar faces on both sides thereof, in which the abutments are made without providing tops.

The embodiment shown in figures 8 and 8A, on the contrary, provides for the use of a frame top, by practically using two section members 1 which are respectively connected to the fixed structure, in order to form the fixed frame, and the movable structure, in order to form the movable frame.

The embodiment of figures 9 and 9A comprises an inward openable window frame, including window wings 2 and 3, and for which there is used the section member 30 which is coupled, at a side thereof, to a section member 1, whilst, at the other side thereof it can be abutted against a movable frame including the section member 1 in order to provide a window which is coplanare on a face and topped on the other face thereof.

By the above disclosed section member it will be possible to omit any ridge abutments thereby window and door frames will be obtained having perfectly flat surfaces.

Moreover, for the wings of the window or door frames it will be possible to use the same section member which forms the fixed frame as above disclosed.

In the embodiment including the inner top, the movable portion has a top extension of 8 millimeters with respect to the fixed portion.

The disclosed section members, see for example figure 7, affords the possibility of making coplanar window and door frames, that is frames having flat inner and outer surfaces.

Moreover, a main feature of the invention is that the glass seat, or abutment, has a higher configuration, so as to provide a firm coupling of the glass.

To the foregoing it is to be added that the fixed frames can be either opened or tubular, while providing the possibility of making window and door frames with abutment tightness gaskets, as in conventional embodiments, or of making window and door frames including a central gasket or open joint, in the case of coplanar frames.

Another important aspect of the invention is that it affords the posibility of easily making single-block or integral section members, that is comprising the guides for the rolling blinds; moreover, a box construction can also be easily formed at the top of the window frame for enclosing therein the rolling blind roller.

From the above disclosure it should be apparent that the invention fully achieves the intended aim and objects.

While the invention has been disclosed and

illustrated with reference to a preferred embodiment thereof, it should be apparent that the disclosed embodiment is susceptible to several modifications and variations all of which will come within the spirit and scope of the appended claims.

Claims

1. A section member assembly for making window and door frames in general, characterized in that said section member assembly comprises flat section members without any ridge abutments, for making flat window and door frame surfaces; section members for providing window and door frame wings, which are adapted to be used either for a fixed frame or for a movable frame having an inner top, box-like body section members, including a box-like body having a partially recessed housing, which section member can be coupled to other cooperating section members in order to provide flat surfaces on the two faces of the window or door frames.

2. A section member assembly according to claim 1, characterized in that said assembly comprises a section member which can be used both for forming a fixed frame and a movable frame said section member having a central body including, on the small size thereof, opposite legs which end with a respective recess for housing tightened gaskets and the like.

3. A section member assembly according to the preceding claims, characterized in that said assembly comprises a movable frame section member for making coplanar window and door frames, said section member comprising a central body including, at one end thereof, a leg having a gasket recess and, at the other end thereof, a further leg ending with an inturned edge, on an intermediate portion of said box-like central body there being provided a toothed lug for defining a further recess and a spaced portion which is parallel to said lug.

4. A section member assembly according to one or more of the preceding claims, characterized in that said assembly further comprises a section member for making two or three wing window frames, said section member having a shaped box-like central body provided with a leg including an abutment recess, on an extension of a side thereof, as well as a further seat which is partially recessed in said box-like body, on the opposite side of which there being provided spacer portions adapted to operate as a reference element for the coupling with another section member.

5. A section member assembly according to one or more of the preceding claims, characterized in that said assembly further comprises an upright section member having a central body including a pair of aligned legs which end with abutment seats or recesses.

6. A section member assembly, for making window and door frames in general, according to the preceding claims, characterized in that said assembly is made with an enlarged central body.

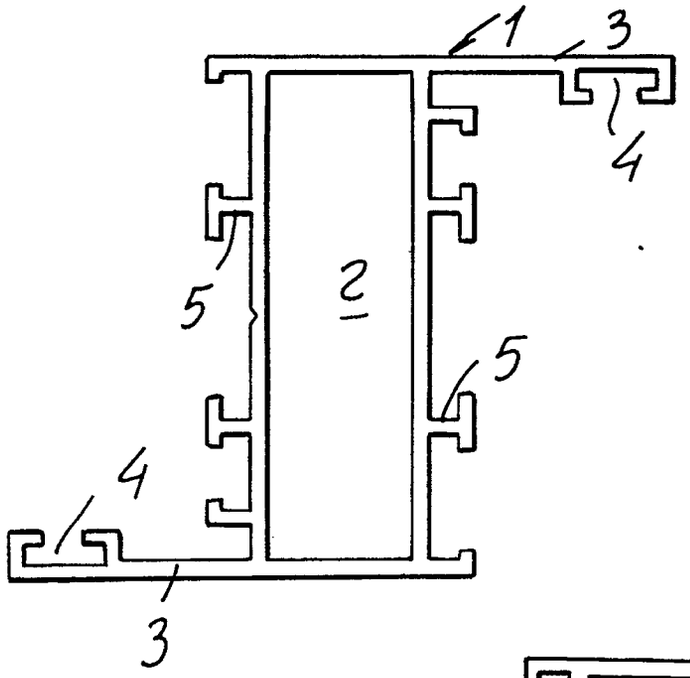

FIG. 1

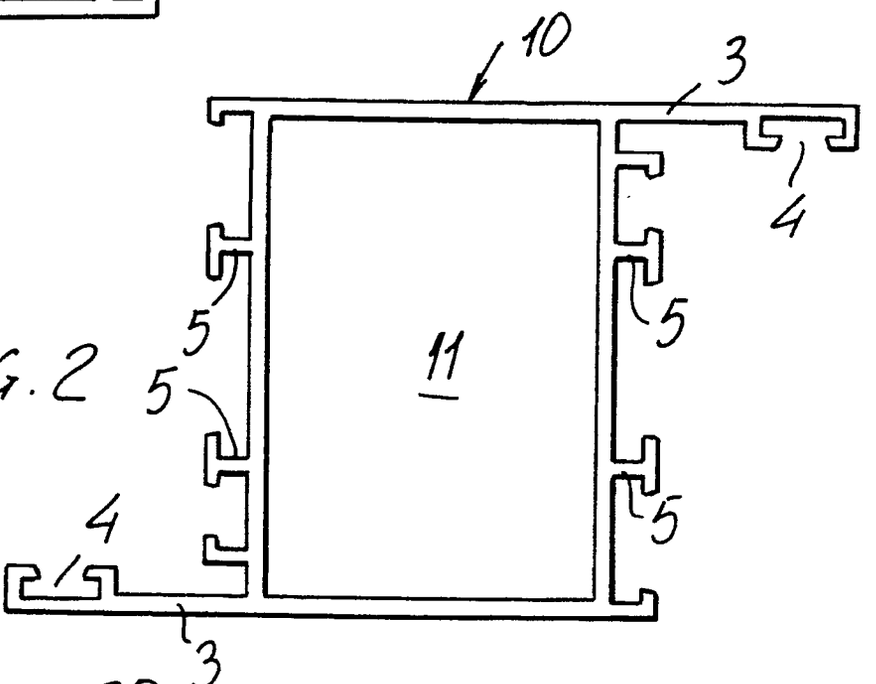

FIG. 2

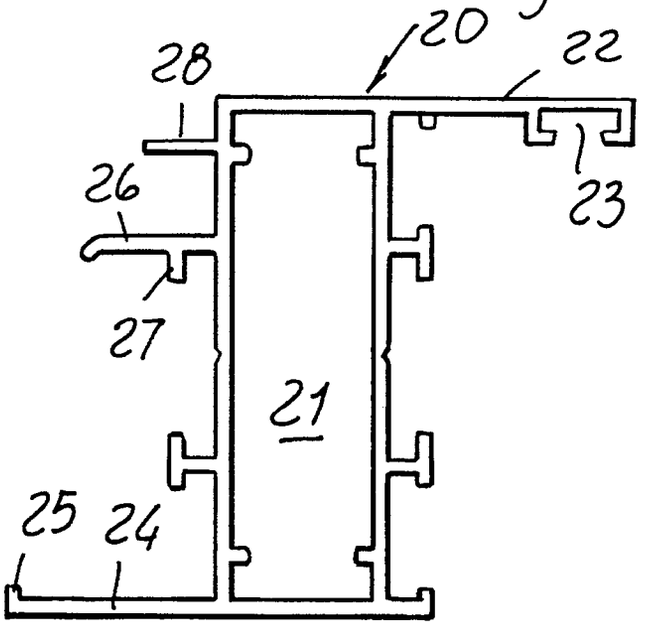

FIG. 3

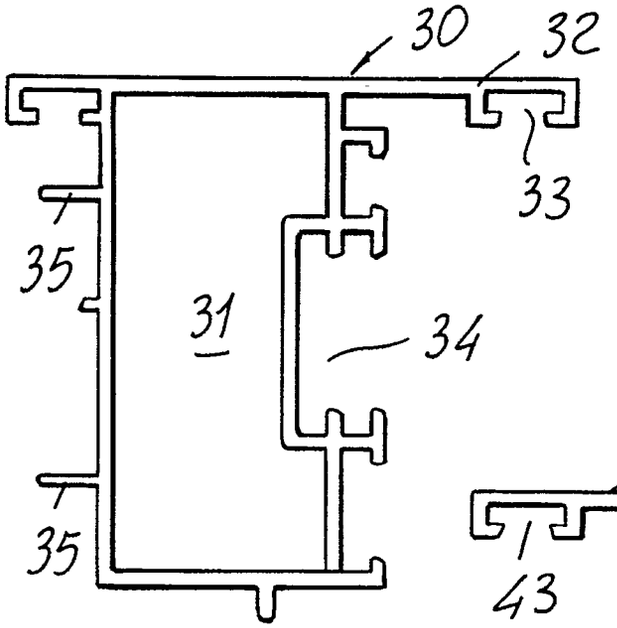

FIG. 4

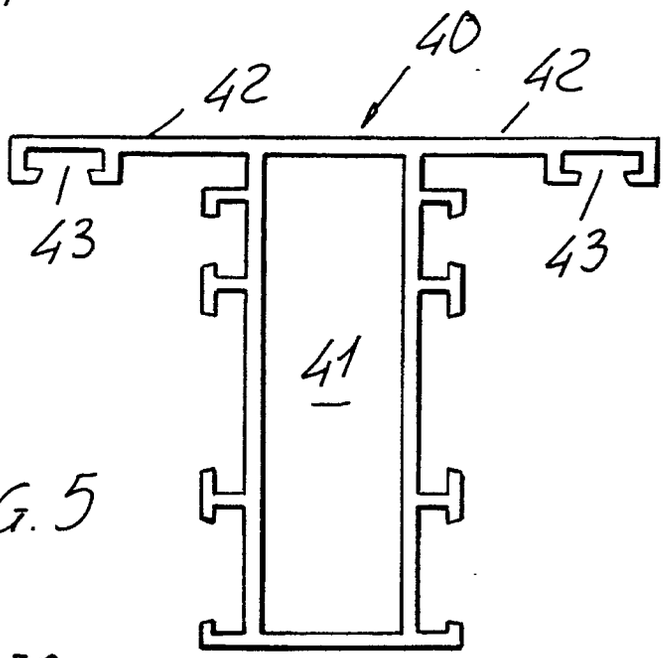

FIG. 5

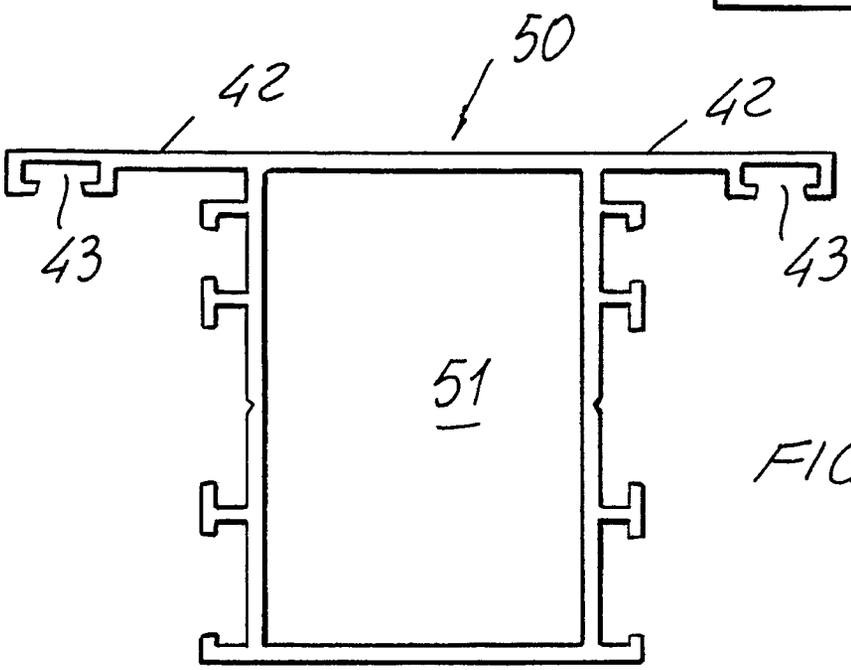

FIG. 6

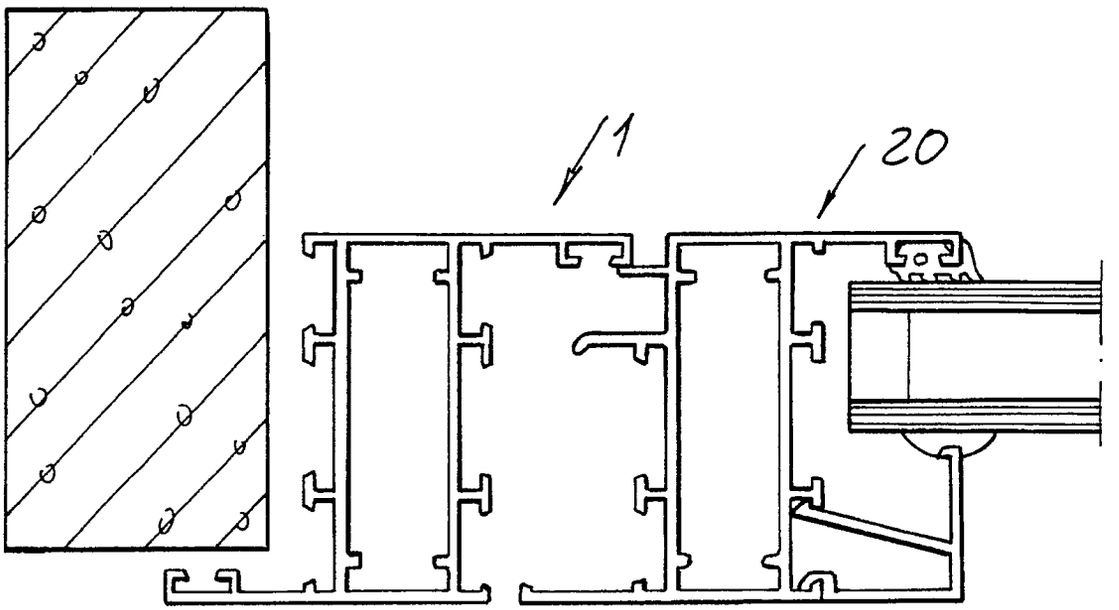

FIG. 7

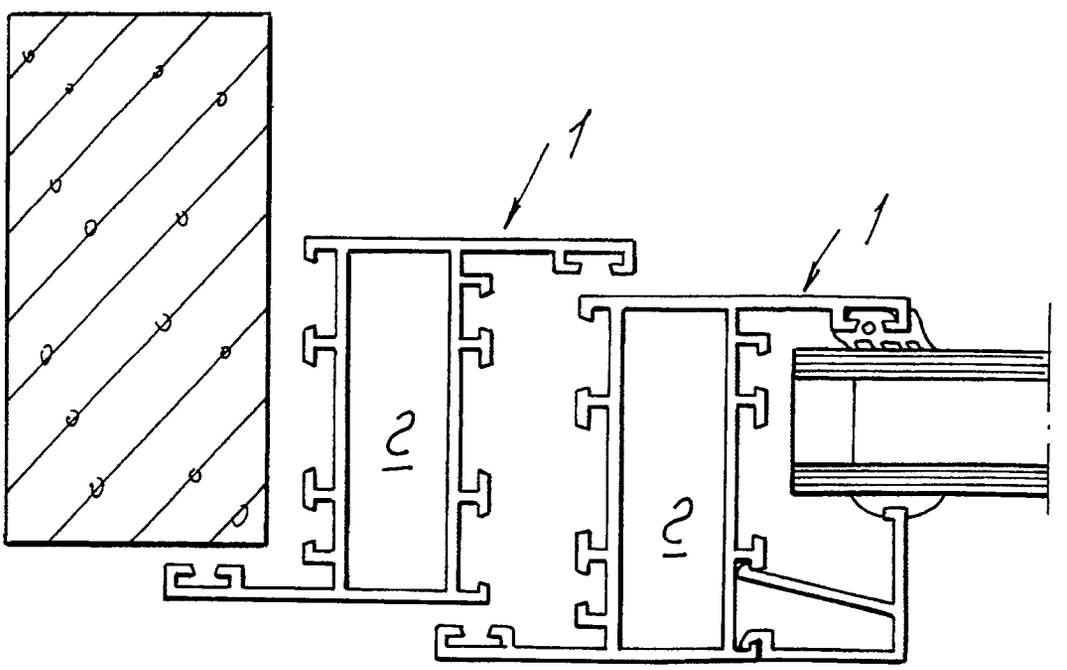

FIG. 8

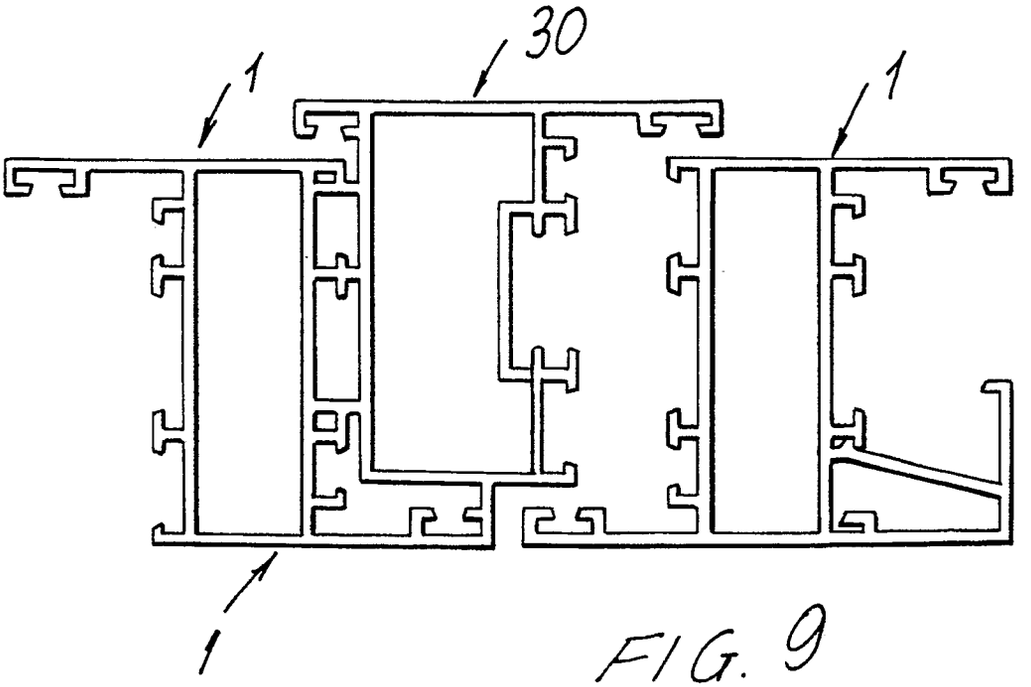

FIG. 9

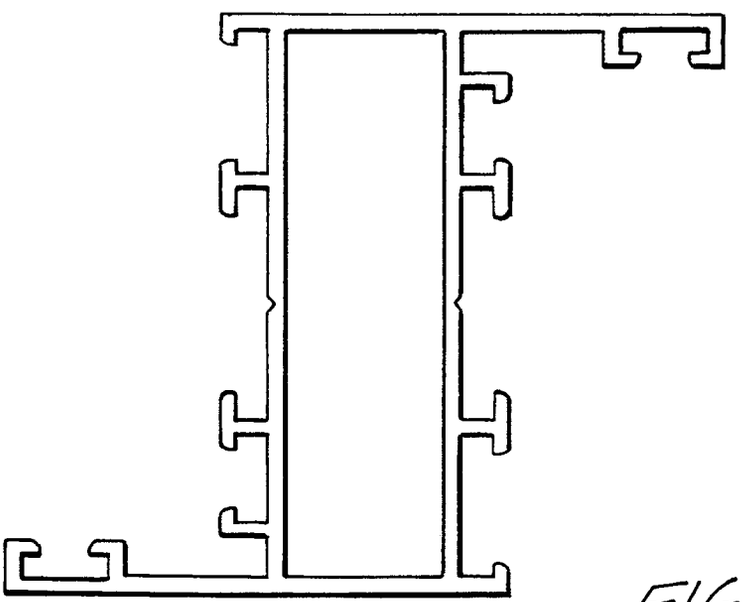

FIG. 1A

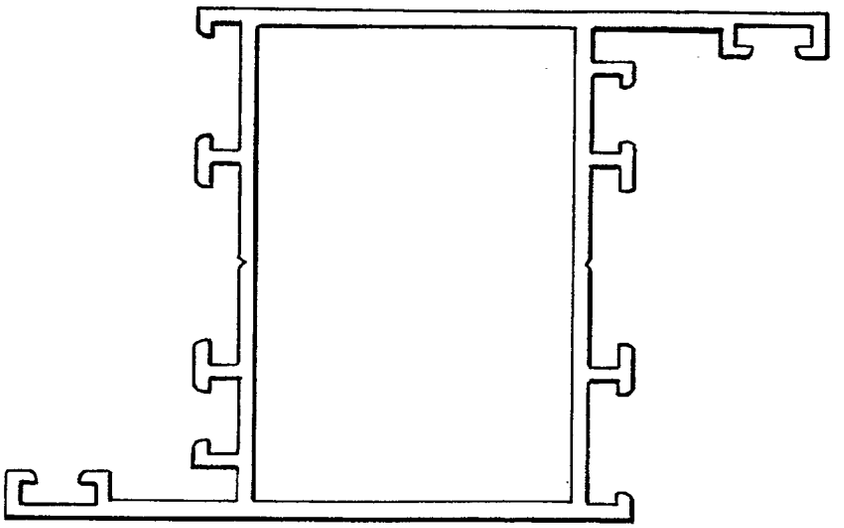

FIG. 2A

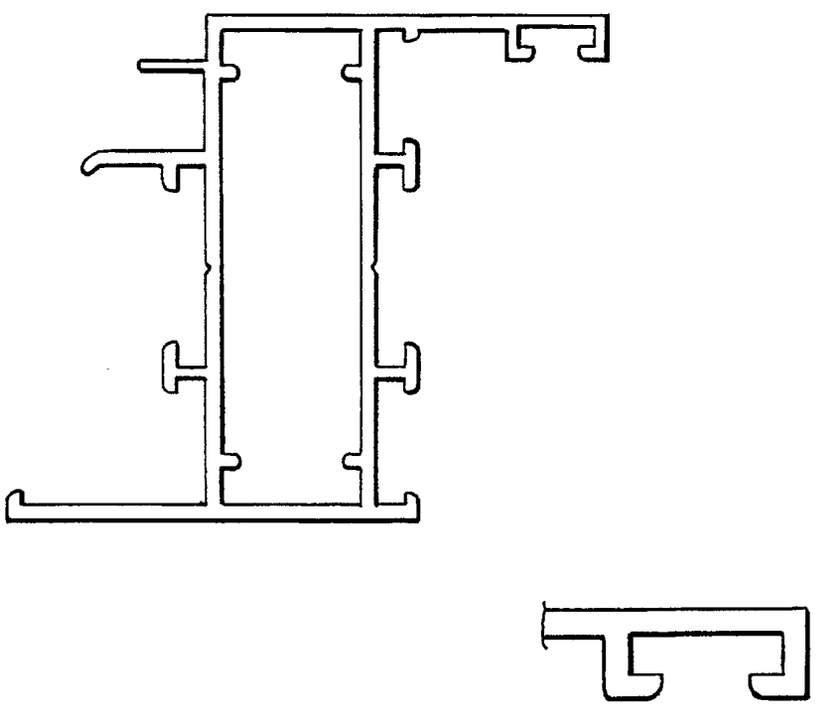

FIG. 3A

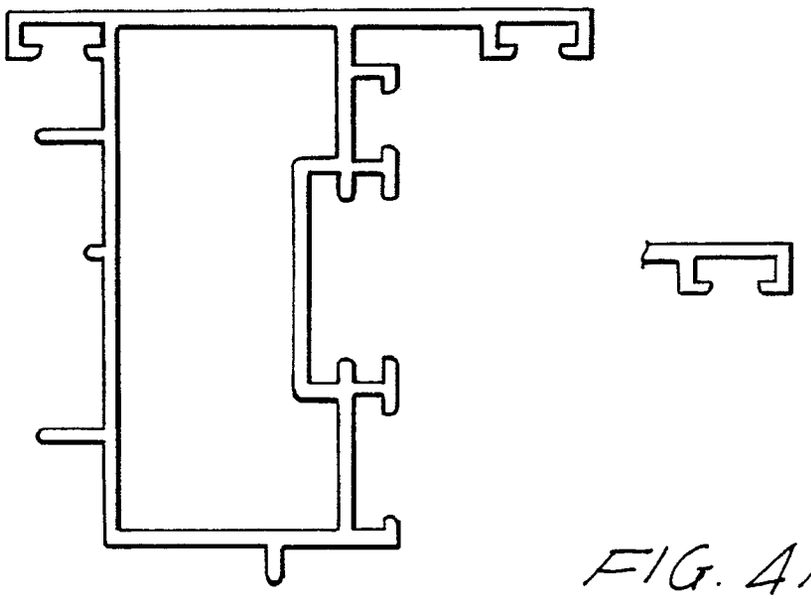

FIG. 4A

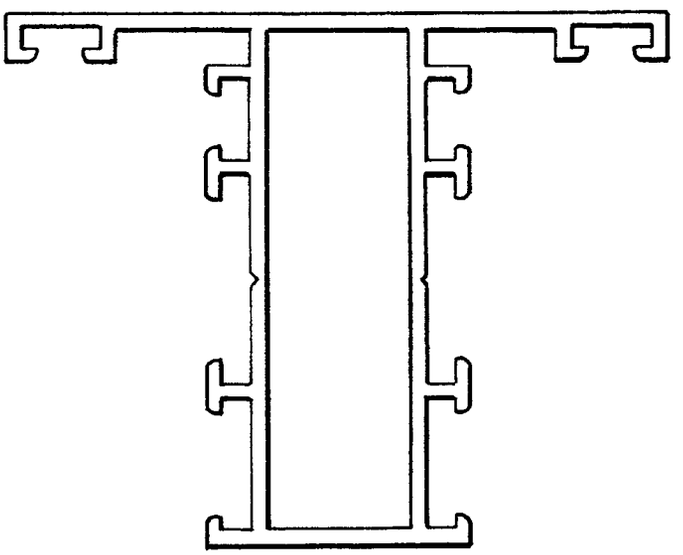

FIG. 5A

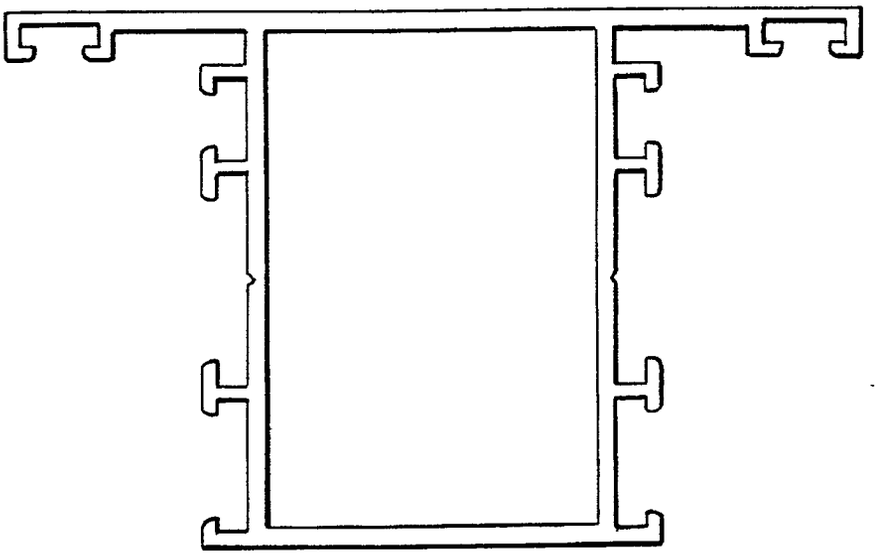

FIG. 6A

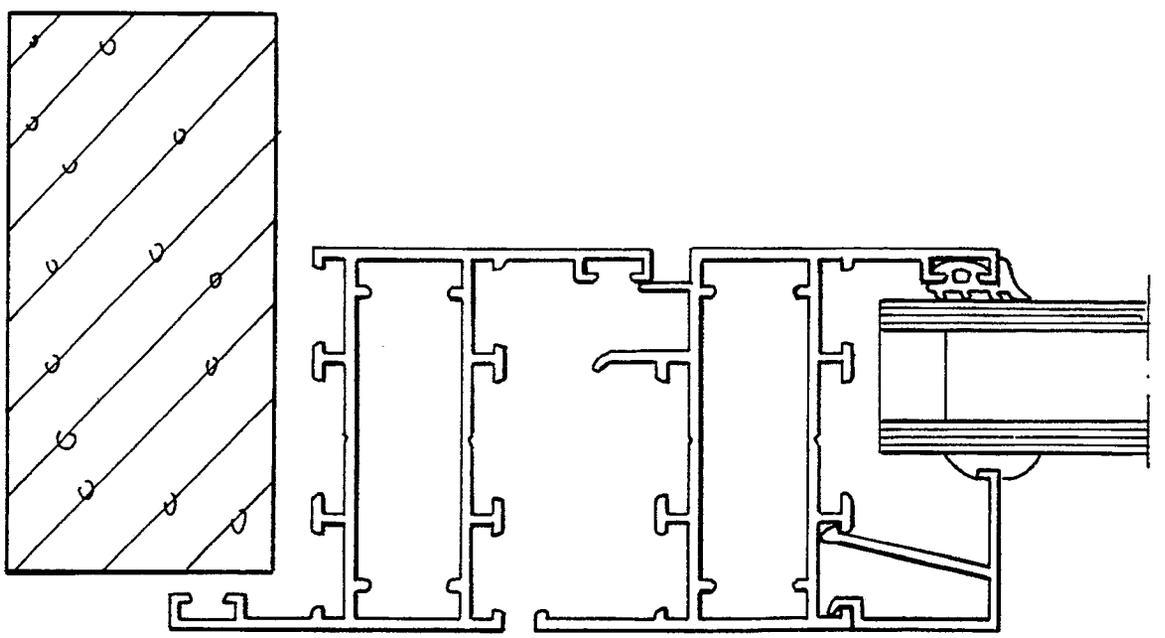

FIG. 7A

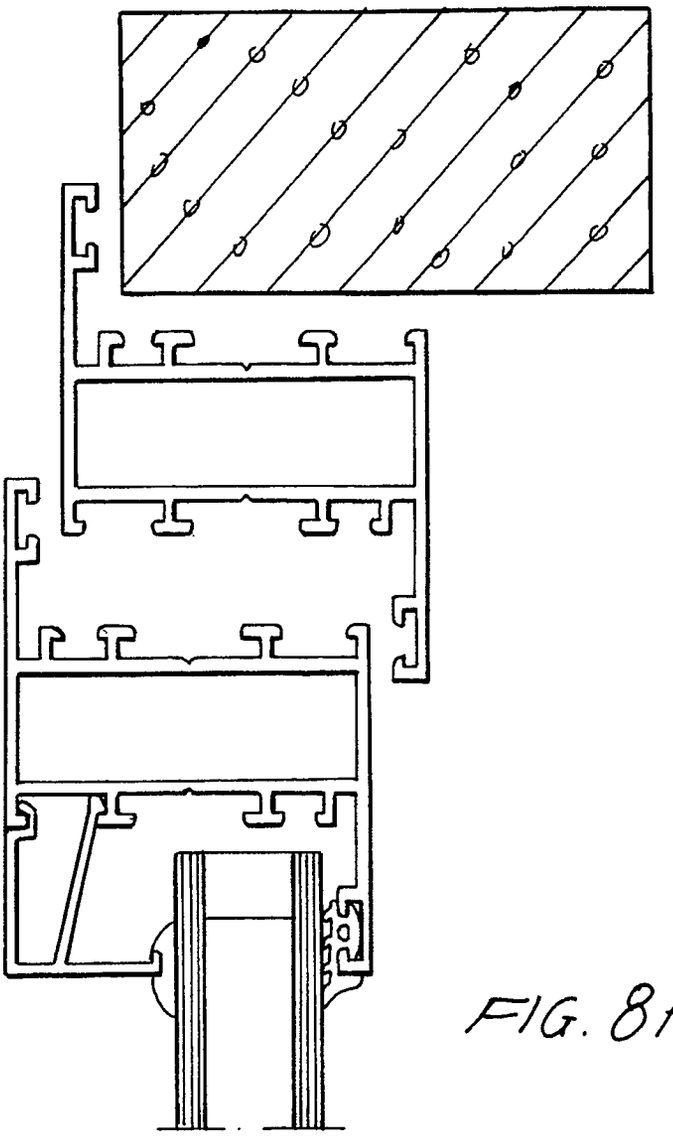

FIG. 8A

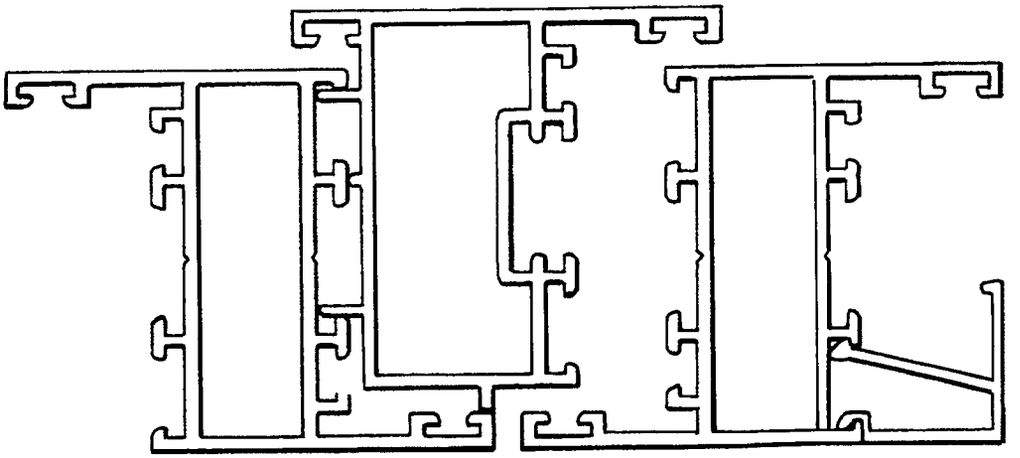

FIG. 9A

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 90 83 0535

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	EP-A-0 049 694 (R.A.I. REYNOLDS ALUMINIUM ITALIA) * page 5, line 10 - page 7, line 14 * * page 8, line 12 - page 11, line 8 @ page 12, line 29 - page 13, line 12; figures 1-14 *	1,2,4,5,6, 3	E 06 B 3/08
Y,A	DE-A-2 121 961 (SCHÖNINGER) * page 3, paragraph 3 - page 4, paragraph 1 * * page 10, paragraph 2 * * claims 1,3; figures 1-7 *	3,1,2,5,6	
A	FR-A-2 626 931 (O.C.M.A. DI CONSTANTINI MARINO & C.) * page 7, line 8 - page 10, line 20; figures 1-5 *	1-3,5,6	
A	DE-A-2 605 293 (EUROCOM ESTABLISHMENT) * figure 3 *	4	
A	EP-A-0 325 901 (METALLURGICA METRA TRAFILATI ALLUMINIO)		

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

E 06 B

The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
The Hague	26 April 91	DEPOORTER F.

CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone
Y: particularly relevant if combined with another document of the same catagory
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