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

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

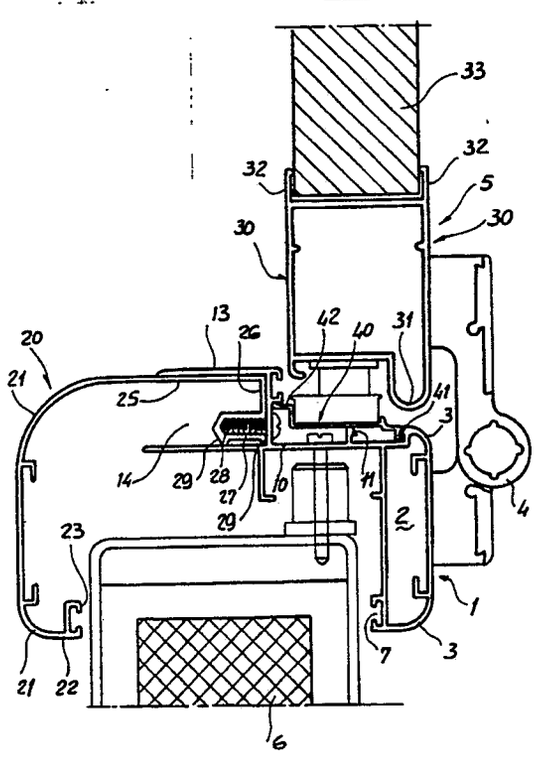
(74) Representative: **Cicogna, Franco**
Ufficio Internazionale Brevetti Dott.Prof. Franco Cicogna Via Visconti di Modrone, 14/A
I-20122 Milano(IT)

(54) Section system particularly designed for making inner doors.

(57) Said system comprises a first section member (1) forming the inner half of the fixed frame, which is provided with a box-like portion (2), at the hinge attachement zone for coupling the movable wing (5), and a housing (14), for the telescopic coupling with a second section member (20), forming the outer half of the fixed frame.

The first (1) and second (20) section members, of the fixed frame, can be fitted to different thickness walls (6); there is moreover provided a section member (30), forming the movable wing frame (5), which can be assembled by brackets and is provided with fins (32), for restraining the door closure panel (33).

Fig.6



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BACKGROUND OF THE INVENTION

The present invention relates to a section member system or assembly, which has been specifically designed for making inner doors.

As is known, a very important problem to be solved in making inner doors by using extruded section members, for example aluminium section members, is that of properly fitting the section members to walls having different thicknesses to which the doors must be applied; in fact, it is at present necessary to make a very broad range of section member sizes, adapted to be fitted to different applications.

Another drawback is that known section members have weak regions at the zones thereof where there are applied the movable wing supporting hinges, since the stresses due to the cantilever supported weight can cause deformations of the section members.

SUMMARY OF THE INVENTION

Accordingly, the aim of the present invention is to overcome the above mentioned drawbacks, by providing a section member system or assembly, which has been specifically designed for making inner doors, which is adapted for fitting with a very reduced number of component elements, to walls of different thicknesses, while providing a very precise assembl ing.

Within the scope of the above mentioned aim, a main object of the present invention is to provide a section member assembly the section members of which have a very great mechanical resistance against the stresses generated by the hinges, without causing any types of deformations.

Yet another object of the present invention is to provide such a section member system or assembly, the section members of which have a very high finishing degree and comprise perfectly rounded surfaces and which, in addition to increasing the mechanical resistance of the section members, further contributes to aesthetically improving tne finished door or window frame.

Yet another object of the present invention is to provide such a section member system, the section members of which can be easily made starting from easily available materials and which, moreover, are competitive from a mere economic standpoint.

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 system or assembly, particularly designed for making inner doors, characterized in that said section member system comprises a first section member, forming the inner half of the fixed frame, provided with a box-like portion, at the attachement region of the hinges for coupling the movable wing and a housing, for telescopically coupling a second section member, forming the outer half of the fixed frame, said first and second section members of the fixed frame being adapted to be fitted to walls having different thicknesses,there being moreover provided a movable frame section member which can be assembled by brackets and is provided with fins for restraining the door closure panel.

BRIEF DESCRIPTION OF THE DRAWINGS

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

Figure 1 shows the first section member forming the inner half of the door fixed frame;

Figure 2 shows the second section member forming the outer half of the door fixed frame;

Figure 3 shows the section member forming the door movable wing;

Figure 4 shows a covering section member;

Figure 5 is a schematic view showing a door made by using the section member illustrated in the preceding figures; and

Figure 6 shows a cross sectional view taken along the section line VI-VI of figure 5.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the figures of the accompanying drawings, the section member system or assembly, which has been specifically designed for making inner doors, according to the invention, comprises a first section member, forming the inner half of the door fixed frame, indicated overally at the reference number 1, which is provided, at its inward facing surface, with a box-like body which, at the exposed surface thereof, is provided with rounded corners 3.

On said box-like portion there is applied a hinge 4 for coupling the door movable wing or panel, indicated overally at the reference number 5.

On the portion of the box-like region facing the wall 6 there are provided opposite fins or legs 7, to

which there can be applied a conventional tightness gasket.

Perpendicularly to the box-like region a rectilinear portion 10 extends which is provided with opposite fins 11 for applying fittings and the like and which ends with an adjoining arm 13 comprising a housing for telescopically coupling a second section member, forming the outer half of the door fixed frame, and indicated overally at the reference number 20.

The second section member of the fixed frame 20 has an angular cross sectional shape provided with radiused corners and an end 22 having opposite fins or legs 23 adapted for receiving a tightness gasket for coupling to the fixed wall 6.

At the other end portion thereof, the second section member 20 is provided with a rectilinear arm 25 which ends with a right angle bent portion 26 supporting an engaging body 27 comprising a housing 28 for receiving the section member coupling screws

The engaging body 27 is moreover provided with a pair of lugs 29 affording a precise engaging in the seat or housing 14 formed on the door fixed frame first section member.

Thus, the first and second section members can be applied with a given range of possible displacement thereby easily fitting to walls having different thicknesses.

Moreover, the second section member 20 of the fixed frame can be made with different sizes so as to fit all of the possible sizes of the wall.

As stated, to the door fixed frame, a movable wing or panel can be applied, which has been overally indicated at the reference number 5, made starting from a section member, indicated at 30, which has a rectangular cross-sectional shape, provided with a lug 31 projecting toward an end and adapted to operate as an outer flush or level line for the door wing or panel.

On the edge portion opposite to the lug 31 there are provided opposite fins or legs 32 forming a housing for restraining the door panels 33 provided for forming the door panelling assembly.

The movable wing forming section members are coupled to one another by means of bracket members, at the corners thereof, and are provided with rounded off projecting regions, thereby further improving the stiffness of the section members.

The section member system further comprises a covering section member, overally indicated at the reference number 40, which is provided with a plate like body having, at the end portions thereof, an engaging tooth member 41 and a resting right angle bent foot member 42 for snap applying the section member inside a right angle region formed on the outside of the door fixed frame first section member, so as to operate as a covering element, as well as screws for mutually coupling the first and second section members of the door fixed frame, and screw coupling means for coupling the first section member of the door fixed frame with respect to a wall or fixed structure.

The disclosed section member can be coupled in a very quick and simple way, and, moreover, the coupled section member system has a great mechanical resistance mainly due to the fact that, at the corner regions,there are provided curved zones adapted to stiffen said section members, in addition to improving the aesthetic features thereof.

Another important aspect of the invention is that the door fixed frame first and second section members are so coupled to one another that they can mutually slide.

While the invention has been disclosed and illustrated with reference to a preferred embodiment thereof, it should be apparent that it is susceptible to several modifications and variations, all of which will come within the scope and spirit of the invention, as defined in the accompanying claims.

Claims

1. A section member system, specifically designed for making inner doors, characterized in that said section member system comprises a first section member forming the inner half of the door fixed frame, having a box-like portion, at the region where there are applied hinges for coupling the door movable wing, and a housing for telescopically coupling a second section member, forming the outer half of the door fixed frame, said first and second section members being adapted to be fitted to different thickness walls, there being moreover provided a door movable frame forming section member which can be assembled by bracket members and is provided with fins or legs for restraining the door closure panel.

2. A section member system according to the preceding claim, characterized in that the first section member, forming the inner half of the door fixed frame is provided, at said box-like portion, on the inward facing corners thereof, with rounded regions.

3. A section member system according to the preceding claims, characterized in that from the box-like portion of said door fixed frame a rectilinear portion extends which ends at said coupling housing.

4. A section member system according to one or more of the preceding claims, characterized in that said coupling housing is delimited by a right angle bent portion arranged on the opposite side from said box-like portion.

5. A section member system according to one or more of the preceding claims, characterized in that said section member system further comprises, at said box-like portion, on the side thereof facing said door fixed structure, a pair of fins or legs for applying a tightness gasket.

6. A section member system according to one or more of the preceding claims, characterized in that the second section member, forming the outer half of said door fixed frame,has a bracket shaped cross-section provided with rounded corners.

7. A section member system according to one or more of the preceding claims, characterized in that the second section member of the door fixed frame is provided, at one end thereof, with opposite fins or legs for engaging with a coupling gasket of the fixed structure.

8. A section member system according to one or more of the preceding claims, characterized in that the second section member of the fixed frame is provided, at the affixing end in said coupling housing,with an engaging body, spaced from the rectilinear portion and defining a housing for receiving a coupling screw for coupling the second section member of the door fixed frame with respect to the first section member of said fixed frame.

9. A section member system according to one or more of the preceding claims, characterized in that said engagement body is provided, on the outer surface thereof, with spaced lugs adapted to operate as a resting and guide element in said housing.

10. A section member system according to one or more of the preceding claims, characterized in that the section member forming the door movable wing has a substantially rectangular cross-section with a curved projection at an edge thereof.

11. A section member system according to one or more of the preceding claims, characterized in that said projection is formed on the opposite portion from said fins or legs.

12. A section member system according to one or more of the preceding claims, characterized in that said system comprises a covering section member which can be snap engaged with the first section member of the door fixed frame, for covering both the region where there is applied the screw for coupling the first and second section member of said door fixed frame, and the coupling screws for coupling said first section member of said door fixed frame with respect to said fixed structure.

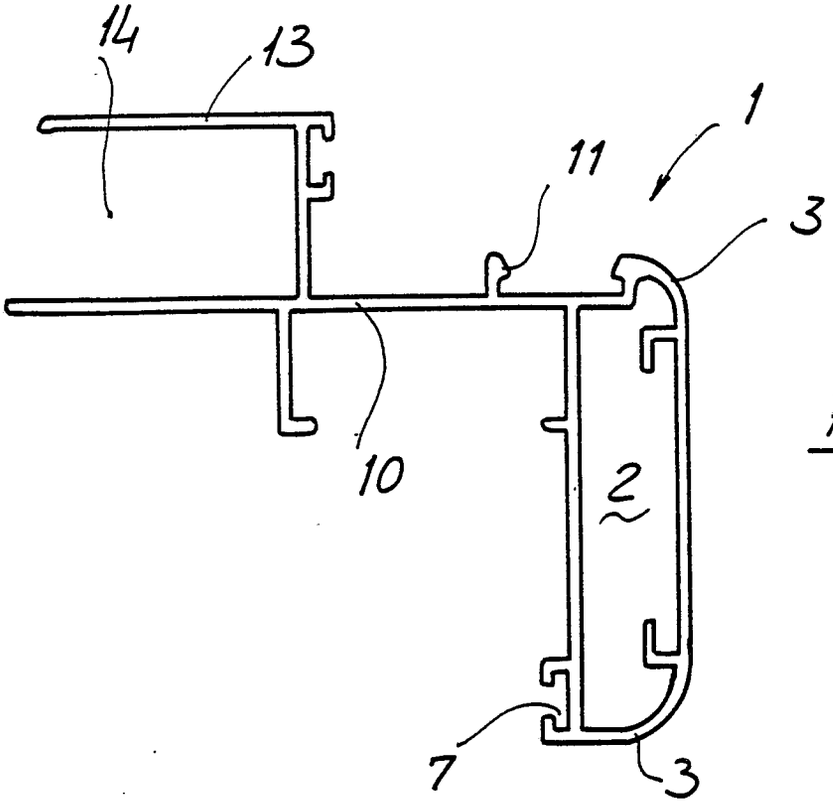

Fig. 1

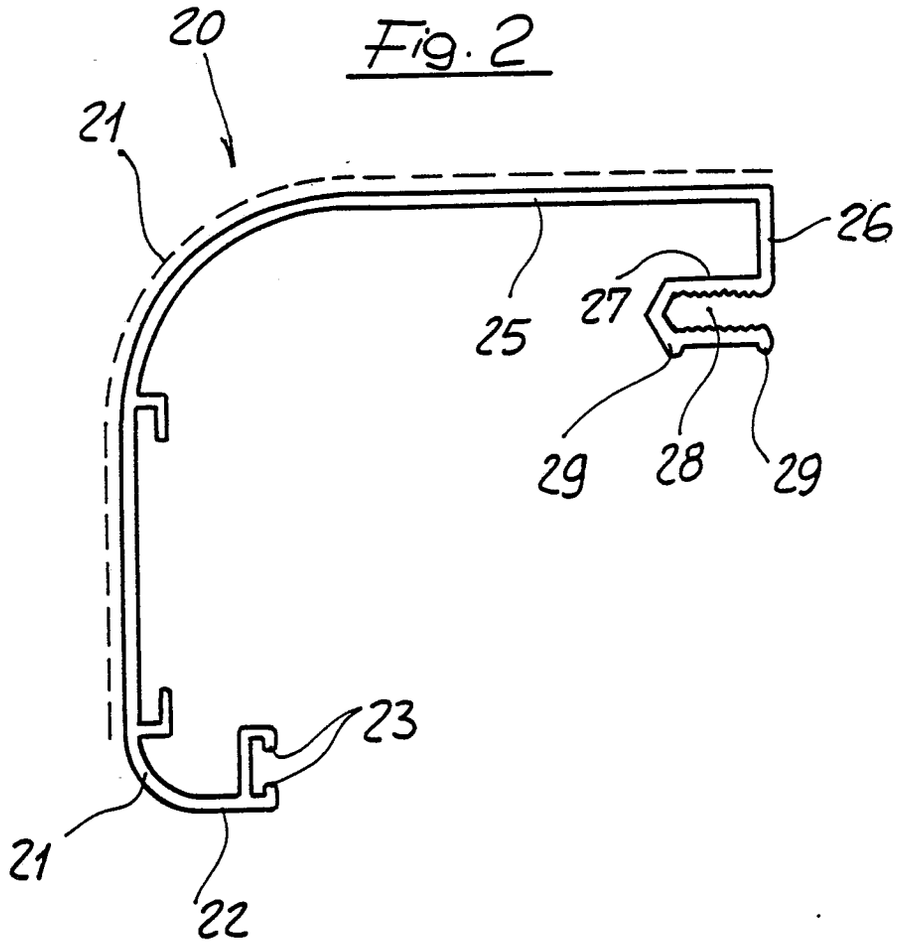

Fig. 2

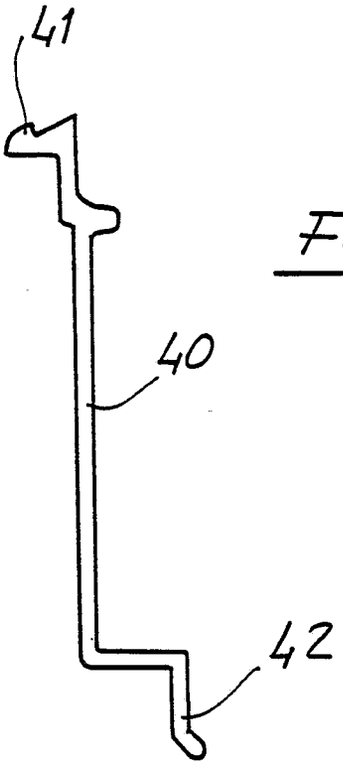

Fig. 4

Fig. 3

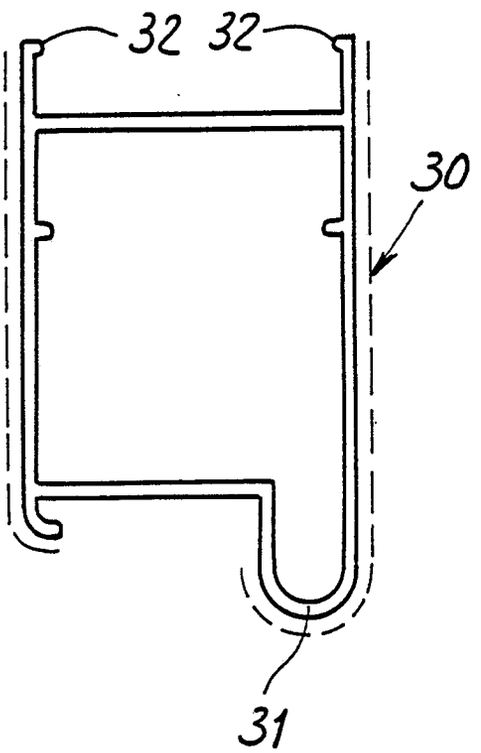

Fig. 5

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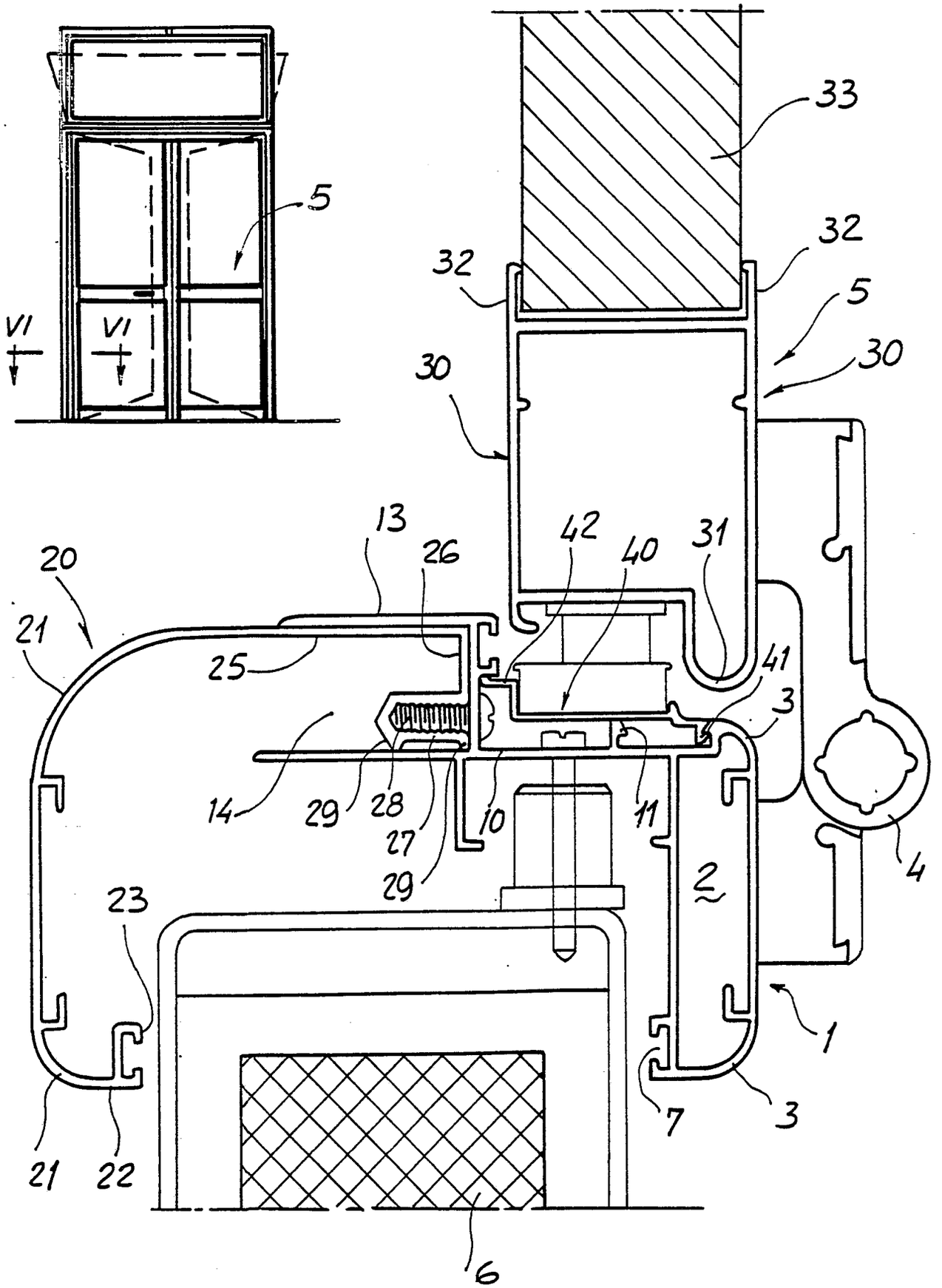
Fig. 6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European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 90 83 0070

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	DE-A-2 326 448 (SONOBAT) * Page 3, line 6 - page 5, line 10; page 7, paragraphe 2; figures 1-5 *	1,4	E 06 B 1/20
Y		2,3,5-12	

Y	FR-A-2 316 427 (ITRES) * Page 1, lines 27-36; page 2, lines 12-19; figure 3 *	2,3,6	
A		1,4,9,12	

Y	DE-A-3 323 498 (REINHOLD KÜFFNER) * Page 4, line 10 - page 8, line 6; figures 1-3 *	5,7,8	
A		1,4	

Y	GB-A-2 078 284 (BOWATER) * Page 1, lines 99-106; figure 2 *	9	

Y	DE-C-1 001 811 (EHRHARDT) * Column 1, lines 1-23; column 1, line 45 - column 2, line 42; figures 1-3 *	10,11	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A		1	E 06 B

Y	FR-A-2 293 560 (MARLEY TILE) * Page 5, lines 10-24; page 6, line 5 - page 7, line 11; page 8, lines 18-23; figures 1-8 *	12	
A		1,2,3,4,6,9	
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	18-07-1990	DEPOORTER F.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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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

EPO FORM 1503 03.82 (P0401)

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 90 83 0070

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)
A	US-A-3 426 482 (MOCK) * Column 3, lines 1-33; figures 1-7 *	1,10,11	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
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