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(54) Section member and fixture assembly for making continuous building faces.

(57) There is disclosed an assembly of section-members and fixtures or fittings therefor , essentially comprising hollow section members (1) provided with symmetrical lugs which extend perpendicular from one of the sides of said section members, (1) and hollow section members having contoured lugs to which open section members can be coupled, the assembly further comprising quick intercoupling and locking means (29,32,32′,41), as well as finishing section members and sealing and/or abutment seals (16,23,26).

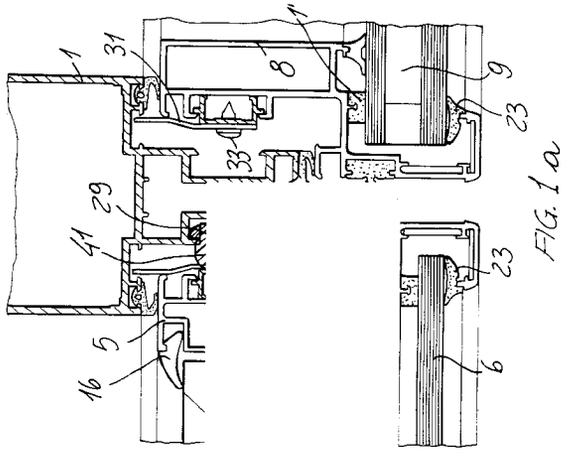

FIG. 1a

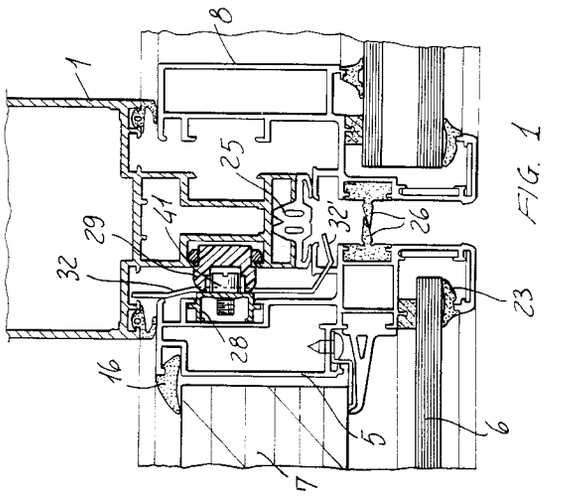

FIG. 1

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BACKGROUND OF THE INVENTION

The present invention relates to a section member and fixture assembly for making continuous building facades.

As is known, there are at present constructed buildings which are provided with structurally continuous facades, which are obtained by mutually horizontally and vertically coupling glass panels either of the single or double type.

Also known is the fact that the glass panels must be usually restrained to a bearing frame, which is made by mutually and firmly coupling uprights and cross-members, which are advantageously formed by cooperating section members.

For such a construction purpose, there are conventionally used a lot of modular component portions the assembling of which, on the other hand, is rather dfficult and requires a lot of labour.

SUMMARY OF THE INVENTION

Accordingly, the aim of the present invention is to provide an assembly or set of section members which, by cooperating with suitable fixtures or fittings therefor, can greatly accelerate and facilitate the assembling operations of the building facades

Within the above mentioned aim, a main object of the present invention is to provide an assembly or set of section members and fixtures therefor which are specifically designed to simplify the proper assembling, that is a firm and coplanar assembling, of said section members.

Another object of the present invention is to provide a section member and fixture assembly which allows to construct very reliable supporting or bearing structures.

According to one aspect of the present invention, the above mentioned aim and objects, which will become more apparent hereinafter, are achieved by a section member and fixture assembly, for making continuous building facades, characterized in that said assembly comprises hollow section members, provided with symmetrical lugs which extend perpendicular from one of the sides of said hollow section members, and further hollow section members having contoured lugs to which open section members can be connected, said assembly further comprising quick intercoupling and locking means, as well as finishing section members and sealing and/or abutment gaskets.

BRIEF DESCRIPTION OF THE DRAWINGS

Further characteristics and advantages of the section member and fixture assembly, for making continuous building facades, according to the present invention, will become more apparent hereinafter from the following detailed disclosure of some preferred, though not exclusive,embodiments thereof, which are schematically illustrated, by way of a merely indicative but not limitative example, in the figures of the accompanying drawings, where:

Figures 1 and 1a are respective horizontal cross-sectional views showing possible combinations of section members specifically designed for restraining a glass panel or plate, on a so-called blind panel, and a box-like glass panel on a window opening;

Figure 2 shows, by a vertical cross-sectional view, the same combination of section members and fixtures;

Figure 3 is a further vertical cross-sectional view illustrating a like section member combination, provided with thermal cut characteristics, and further showing fixtures therefor, for restraining a box-like glass panel provided with an inner glass plate of less size;

Figures 4 and 5 are respective horizontal cross-sectional views illustrating combinations of section members for respectively restraining two glass plates with a back blind panel and two box-like glass panels;

Figures 6 and 7 are respective vertical cross-sectional views illustrating other combinations of section members and fixtures for restraining box-like glass panels constructed by using structural sealing materials and with different width gaps;

Figures 8 and 9 illustrate two further section members which can be used as framing uprights;

Figures 10 to 13 illustrate further section members provided for cooperating with the above mentioned upright section members;

Figures 14 and 15 illustrate a locking device for quick locking a window wing; and

Figures 16 and 17 illustrate a possible operation of the locking device shown in figures 14 and 15.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

With reference to the figures of the accompanying drawings, the section member and fixture assembly for making continuous building facades according to the present invention comprises a hollow section member 1, having preferably a square cross-section and provided, on a side thereof, with mushroom longitudinal ridges which define two perimetrical seats 2, as well as a pair of contoured legs which define two side restraing seats 3 and 3′ and a front restraining seat 4.

This section member can be used as an upright and cross-section member and it can also be formed by the upright section member 1′ shown in figure 8 which has contoured legs of greater extension.

With the above mentioned section member, a

further section member 5, for restraining a glass plate 6 on a blind panel 7, and a further section member 8 for restraining a box-like glass panel 9 cooperate, said box-like glass panel being provided for forming fixed glass panels and for defining window openings.

The cooperating section members, are substantially provided, respectively, with a reduced width longitudinal seat 10 for restraining a single glass plate, and with a further seat, having a greater width, indicated at the reference number 11, for restraining or housing the box-like glass panel.

It should moreover be pointed out that, as the mentioned box-like glass panel is provided with a smaller size inner glass plate 9′, then further section members 12 and 13 can be used, in which the longitudinal seat 10, of reduced width, is formed by a second section member 14 restrained to said section members by means of polyamide interconnecting elements 15, preferably of double-T shape.

The section member 8 is specifically designed for operating as a window wing, and this wing will be formed by restraining in the seat 11 the box-like glass panel 8 through the interposition of suitable seals or gaskets 16 or 17 and the wing will be closed on a resilient controured fixture or fitting 18 which is connected to the section member 1 through screws 19 and on an inner abutment gasket 29 in turn restrained in its corresponding perimetrical seat 2 of said section member 1.

To the section member 5, in turn, there is firmly connected a blind panel 7, by using a small braket 21 affixed to the hollow body of the section member 5 by means of screws 22

Said section member 5, moreover, is also provided, in addition to an inner gasket 16, with an outer perimetrical gasket or seal 23.

The section member 5, as shown, is supported or bears on an inner abutment gasket 20, and is so designed as to define, between the glass plate 6 and blind panel 7, an anti-condensate gap 24.

In this connection it should be moreover pointed out that in the front seat of the section member 1 there are engaged a pair of gaskets 25, a further or second cooperating gasket pair 26 being restrained in corresponding seats of the section members 5 and 8 or 12 and 13.

In the side seats 17 of the latter, in particular, there is engaged a C section member 28, provided with outer lugs for firmly restraining this section member in said seats.

To said C section members a locking device can be vertically applied in order to lock and unlock the window wings, said locking device substantially comprising a contoured body 29 which is provided with open opposite hollows 30 and 30′ which are respectively upwardly and downwardly opened.

The mentioned body is restrained, by means of screws and a small plate 40, in the side hollow 3 of the section member 1, whereas, on the section member 28 for locking the window wing, there is applied, at any desired height,a locking screw 41.

Thus, owing to the disclosed means, the mentioned section member for locking the window wing, will slide in contact with the hollow 29, so as to be automatically locked, at the set height, owing to the interference of the screw 41 and the contoured body 29.

As shown, there are moreover provided a contoured small plate 31, of reduced width, and a further small plate 32 which extends by a doubly bent portion 32′ of less height.

These small plates are specifically designed for obtaining the vertical displacement of the C-shage section member 28.

In particular, said small plates are provided with throughgoing holes and are affixed, by means of screws 33, at a set position on said C section member.

Between the two glass plates of the box-like glass panel (as shown in figures 6 and 7) it is possible to locate a spacer element 34, as well as a layer of a structural sealing material 35, and a not-structural sealing material 36, and, in order to provide a mechanically firm coupling of the outer glass plate of the box-like glass panel, a further suitably contoured fixture 37 can be provided, adapted to press on a hard rubber band 38.

From the above disclosure and the figures of the accompanying drawings, the great functionality and facility of use characterizing the section member and fixture assembly according to the present invention will be self evident.

While the invention has been disclosed and illustrated with reference to a preferred embodiment thereof, it should be apparent that the disclosed embodiments are susceptible to several modifications and variations all of which will cone within the spirit and scope of the appended claim.

Claims

1. A section member and fixture assembly, for making continuous building facades, characterized in that said assembly comprises hollow section members, provided with symmetrical lugs which extend perpendicular from one of the sides of said hollow section members, and further hollow section members having contoured lugs to which open section members can be connected, said assembly further comprising quick intercoupling and locking means, as well as finishing section members and sealing and/or abutment gaskets.

2. A section member and fixture assembly, according to Claim 1, characterized in that said assembly comprises a hollow section member, of square cross-section provided, on a side thereof,

with mushroom longitudinal lugs, defining two perimetrical seats as well as with a pair of contoured legs, defining two side restraining seats, one of which is of substantially closed configuration and the other of which is of substantially opened configuration, as well as a front restraining seat, said section member, provided for upright use, being designed to be replaced by a section member having contoured legs of greater extension

3. A section member and fixture assembly, according to Claims 1 and 2, characterized in that on said upright section member cooperate a first section member for restraining a glass plate on a blind panel, and a second section member for restraining a box-like glass panel provided at window openings, said cooperating section members being provided with a reduced width longitudinal seat, for restraining a single glass-plate, and a further seat having a larger width for restraining said box-like glass panel.

4. A section member and fixture assembly, according to one or more of the preceding claims, characterized in that said assembly comprises two further section members in which said reduced width longitudinal seat is defined by a further section member restrained to said section member by polyamide interconnecting elements preferably of double T shape.

5. A section member and fixture assembly, according to one or more of the preceding claims, characterized in that said section member restraining said box-like glass panel is designed for operating as a window wing and it restrains said box-like glass panel through the interposition of sealing gaskets, said section member bearing, with the window in a closed condition, on a contoured resilient fixture, restrained to said upright section member by screws, and on an inner abutment gasket which is in turn restrained in its corresponding perimetrical seat formed on said upright section member.

6. A section member and fixture assembly, according to one or more of the preceding claims, characterized in that the section member provided for restraining a single glass plate is anchored to said blind panel by a braket, connected to the hollow body of said section member by screws and bearing, in addition to an inner gasket, an outer perimetrical gasket, said section member, moreover, abutting on an inner abutment gasket and being so designed as to define, between said glass plate and blind,panel an anti-condensate gap.

7. A section member and fixture assembly, according to one or more of the preceding claims, characterized in that said assembly further comprises a first pair of gaskets,engaging in the front seat of the upright section member, and a second pair of cooperating gaskets, restrained in corresponding seats of the section members restraining said glass plate, in suitable side seats of the latter there being engaged a C-shape section member having outer lugs for restraining firmly it in said seats.

8. A section member and fixture assembly, according to one or more of the preceding claims, characterized in that to said C-shape section member is vertically applied a device for locking and unlocking the window wings comprising a contoured body including opposite hollows which are respectively upwardly and downwardly opened, said body being engaged, by means of screws and a plate, in the side hollow of the upright section member, on the section member provided for locking said window wing there being applied, at a set height, a locking screw.

9. A section member and fixture assembly, according to one or more of the preceding claims, characterized in that said assembly further comprises a contoured plate, of reduced width, and a further plate extended by a doubly bent portion, of less height, said plates being provided with throughgoing holes and being affixed, by screws, at said positions of said C-shape section member.

10. A section member and fixture assembly, according to one or more of the preceding claims, characterized in that said assembly further comprises spacer elements to be interposed between the two glass panels of a box-like glass panel, through a structural sealing layer and a not structural sealing layer, and there being moreover provided a fixture pressing on a hard rubber band to firmly connect the outer glass plate of said box-like glass panel.

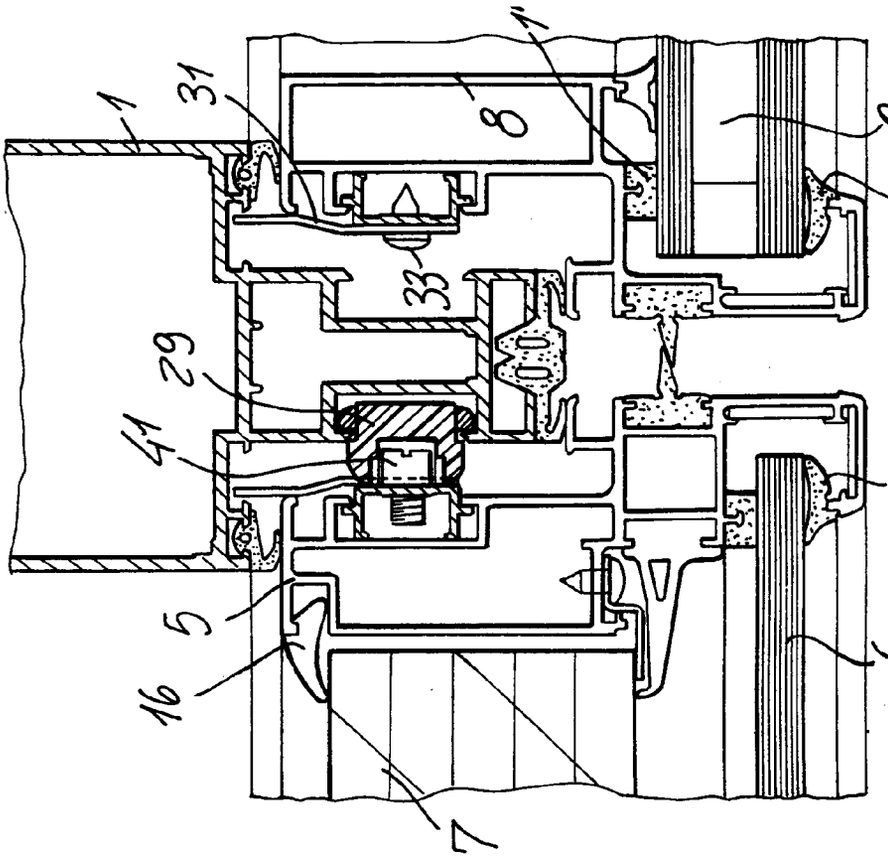

FIG. 1a

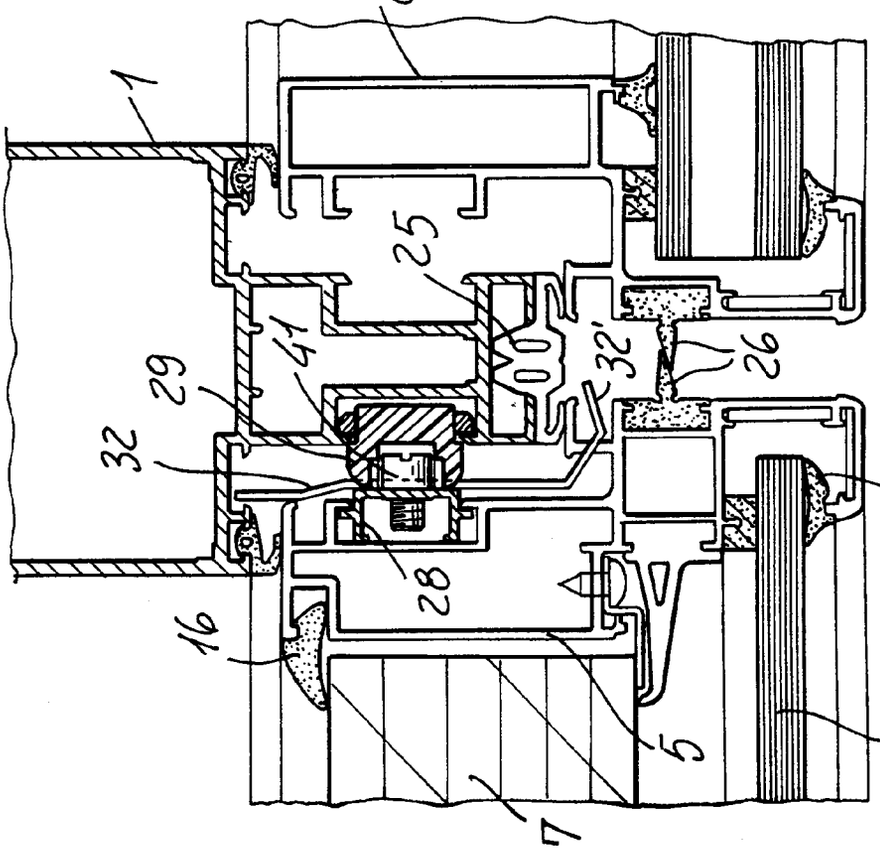

FIG. 1

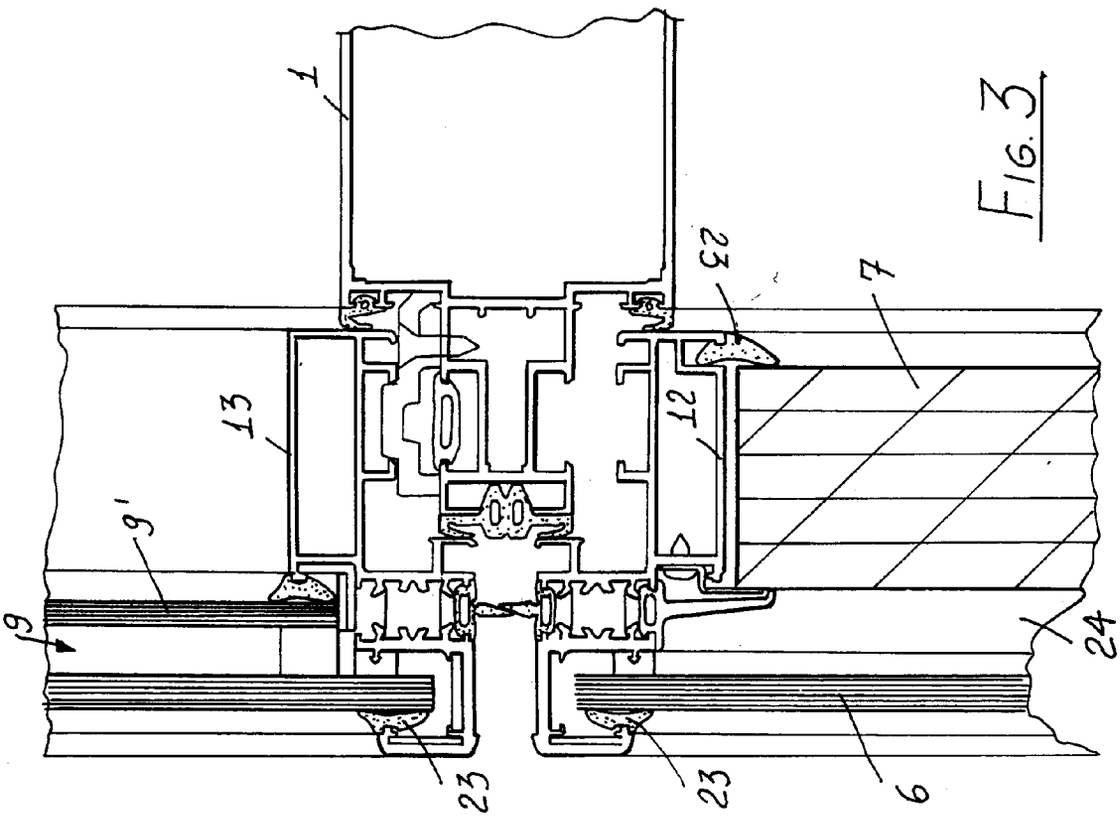
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FIG. 3

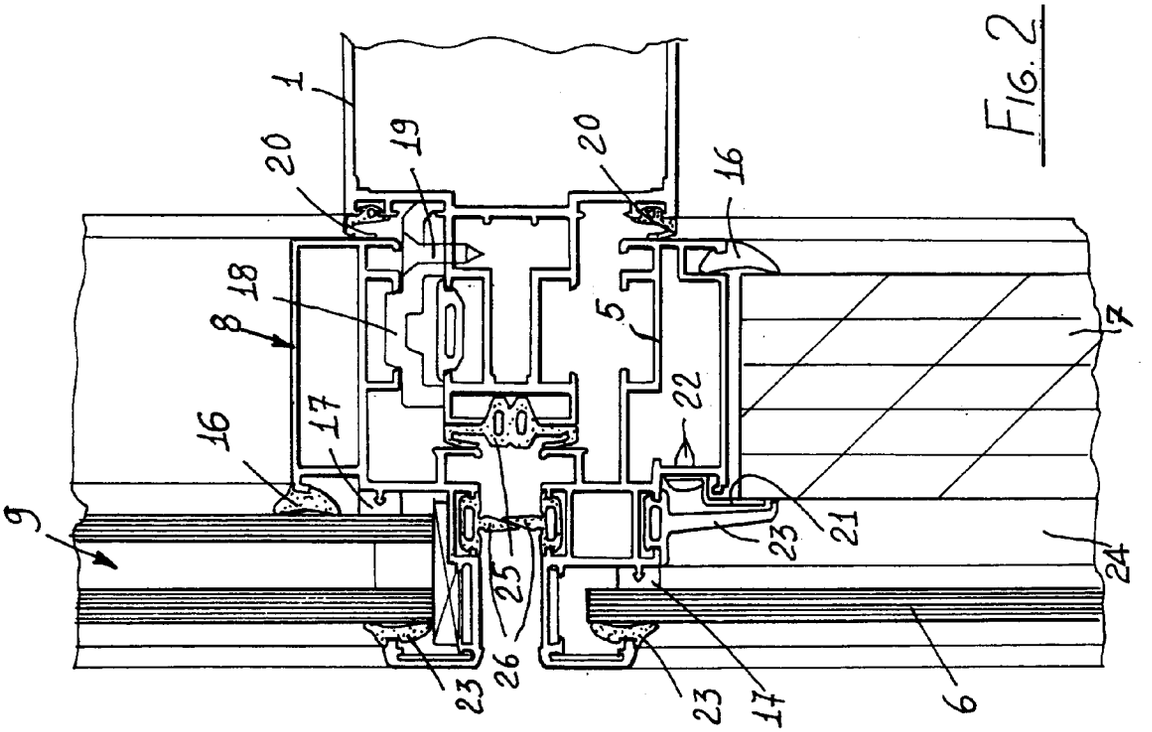
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FIG. 2

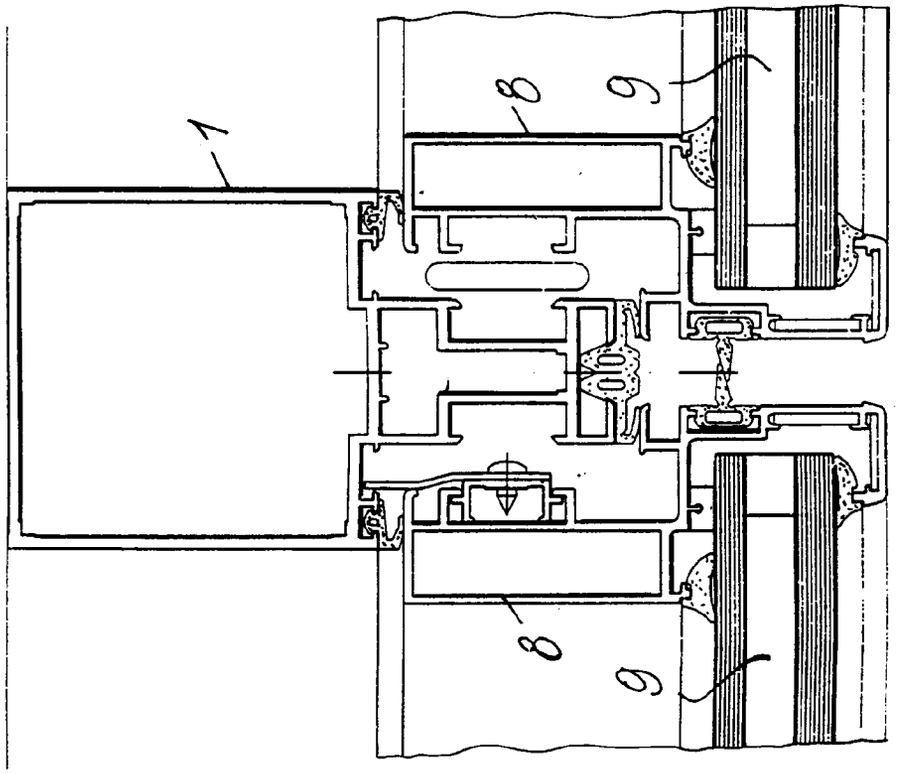

FIG. 5

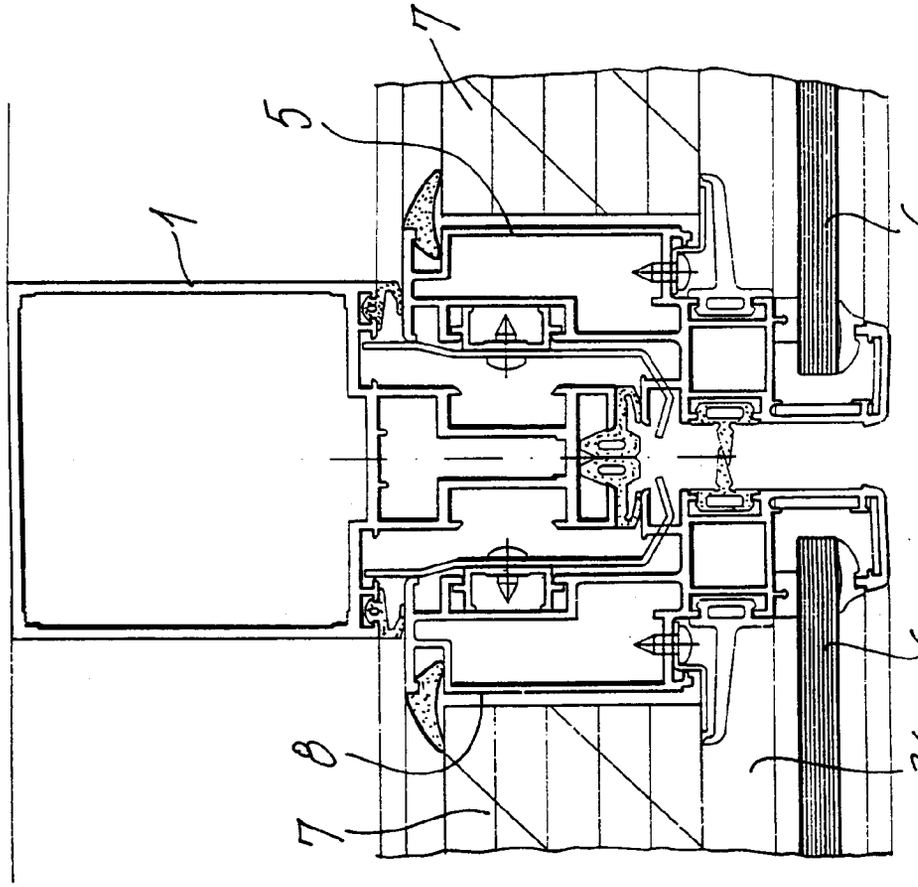

FIG. 4

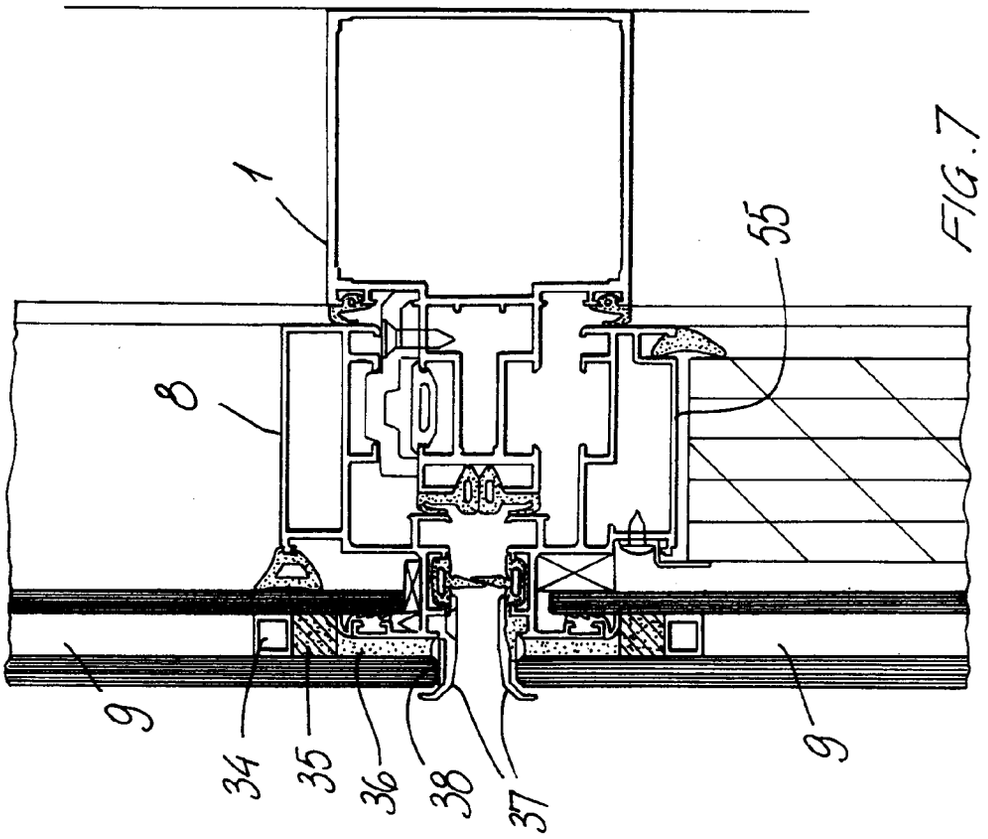

FIG. 7

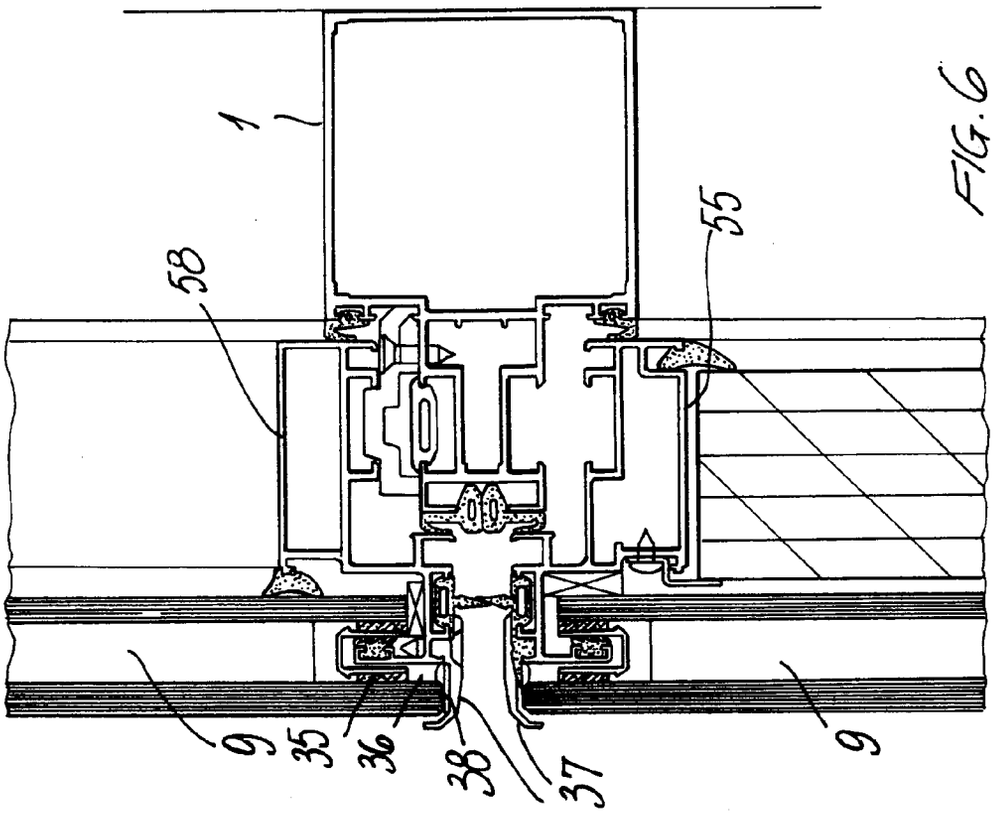

FIG. 6

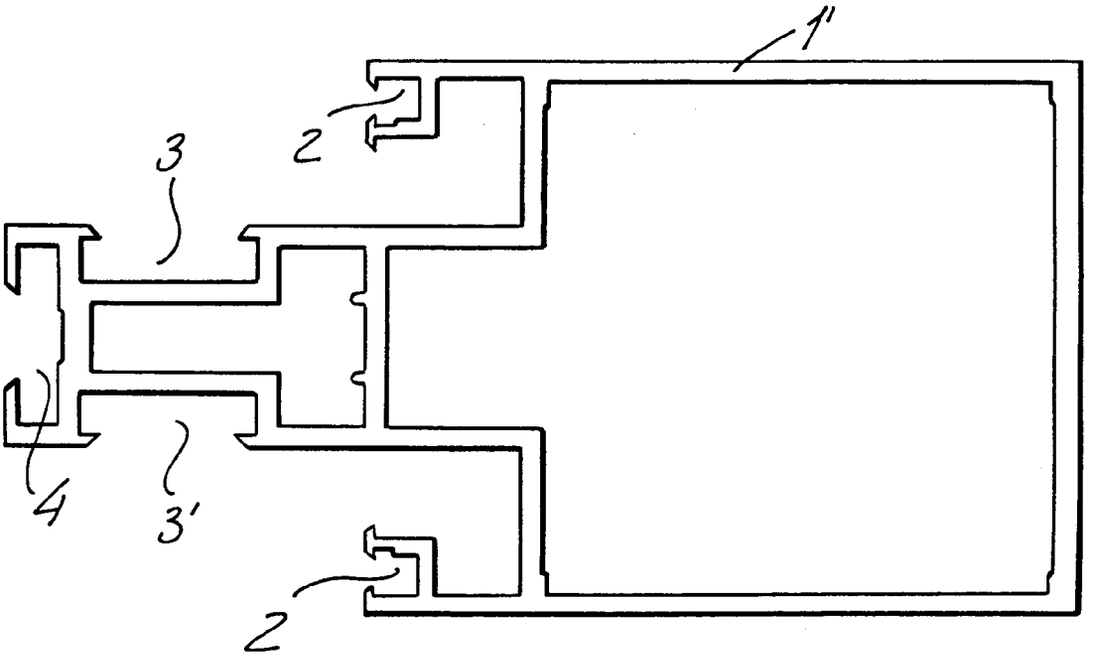

FIG. 8

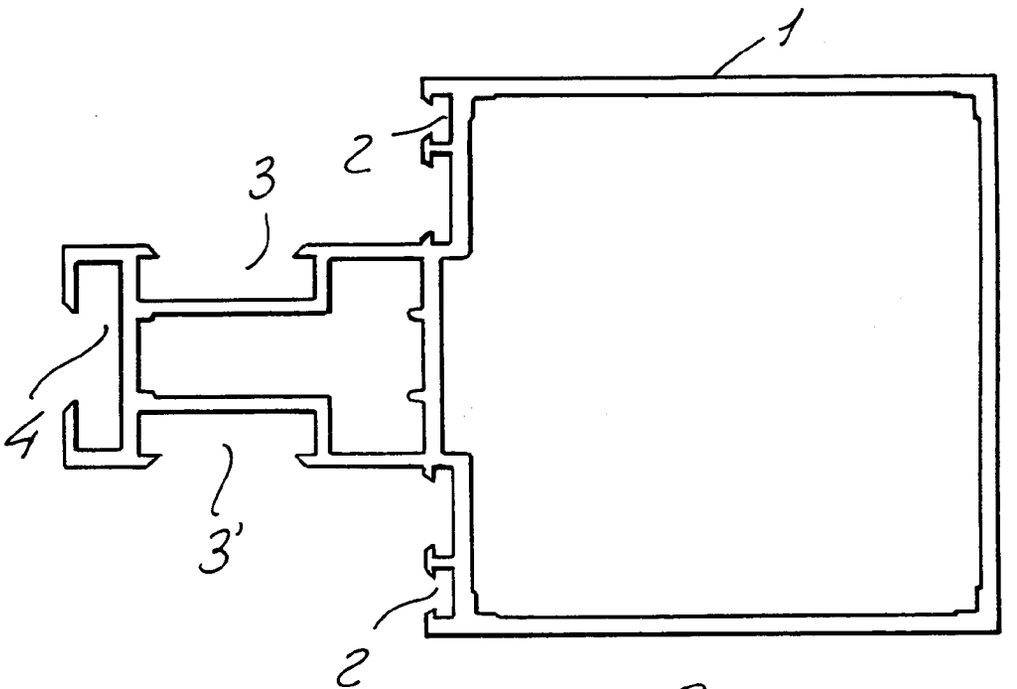

FIG. 9

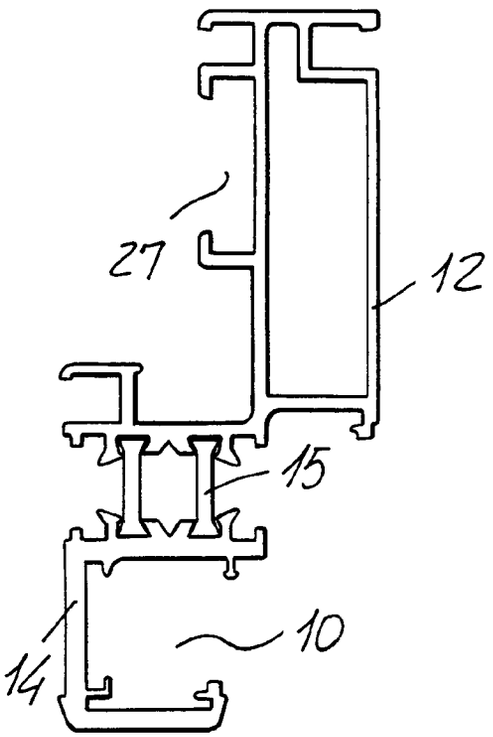

FIG. 10

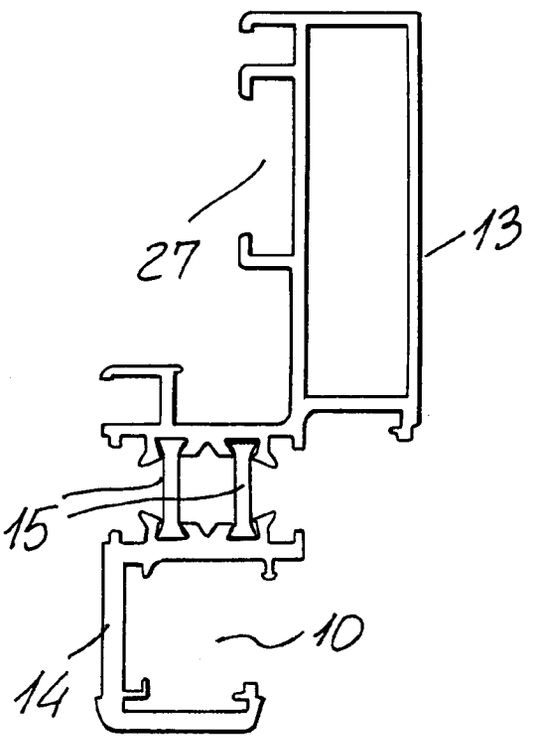

FIG. 11

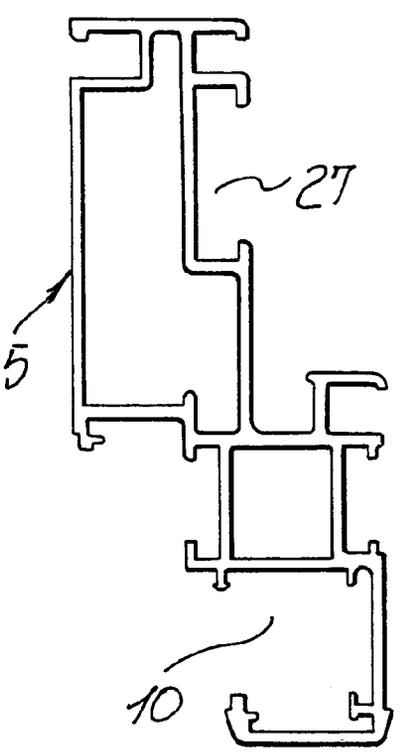

FIG. 12

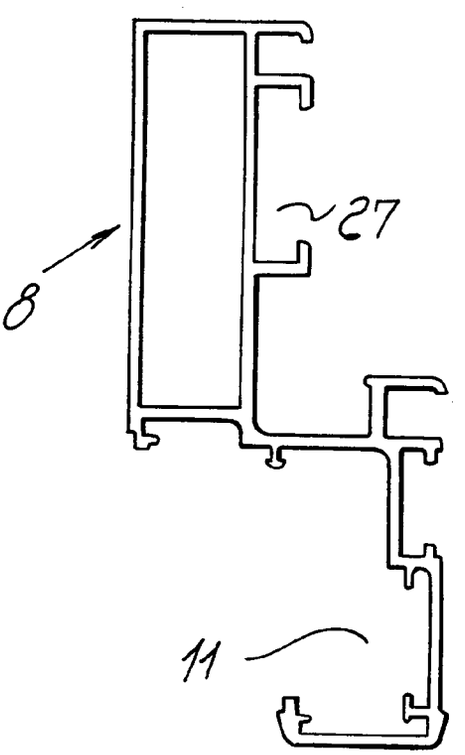

FIG. 13

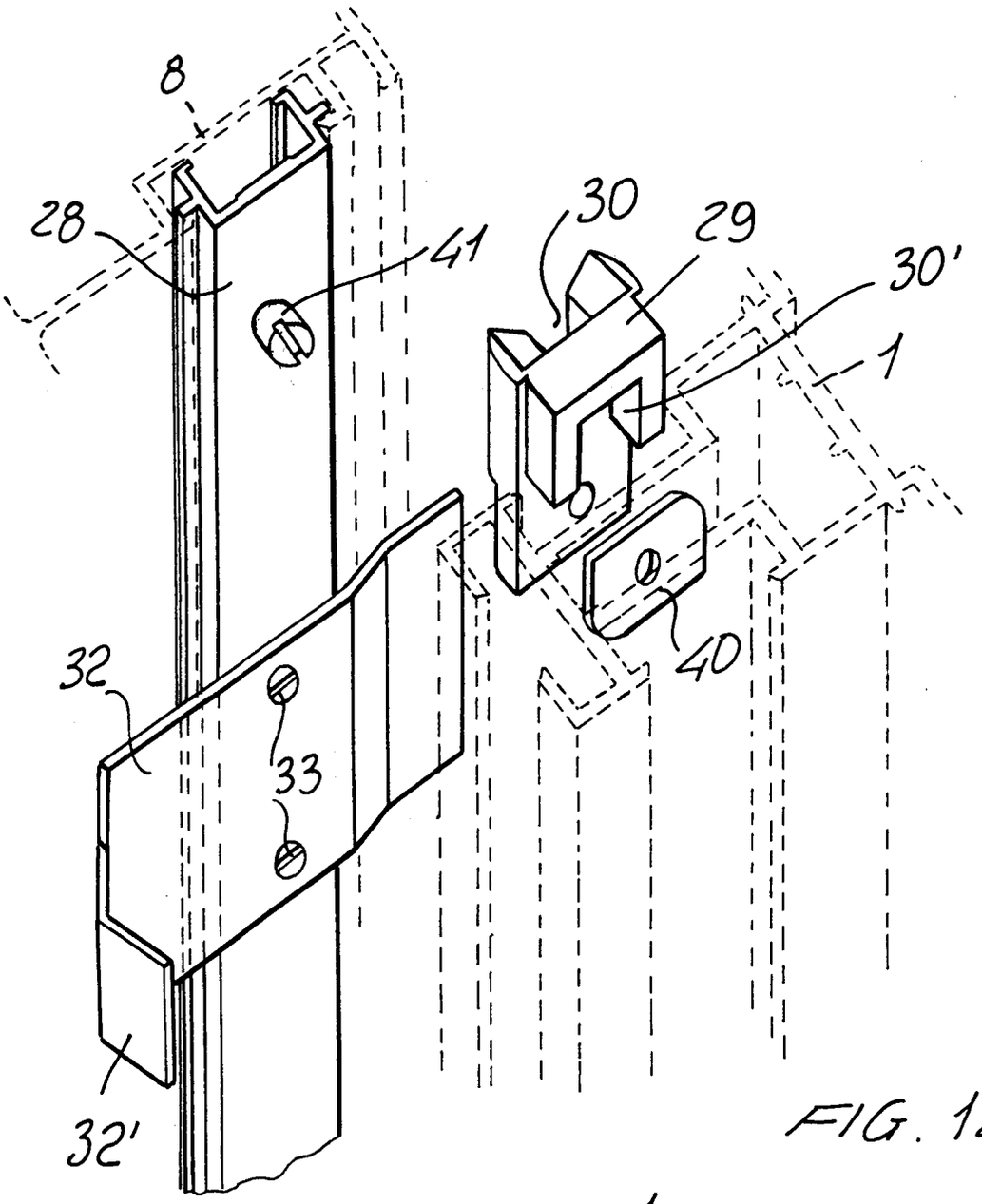

FIG. 14

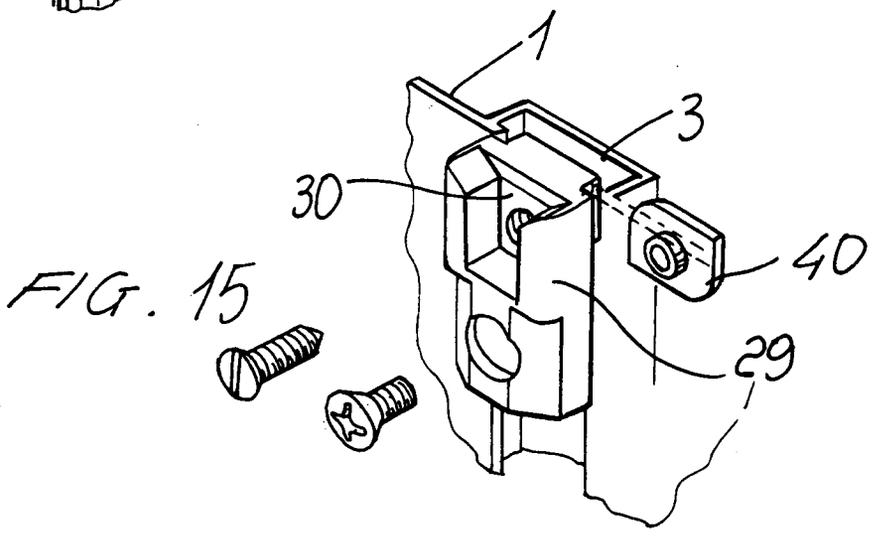

FIG. 15

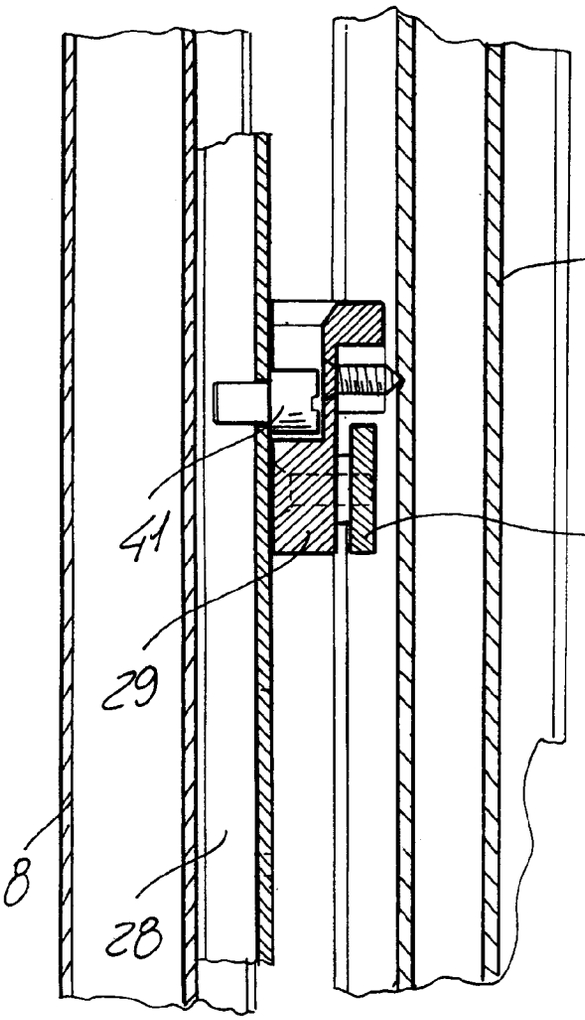

FIG. 17

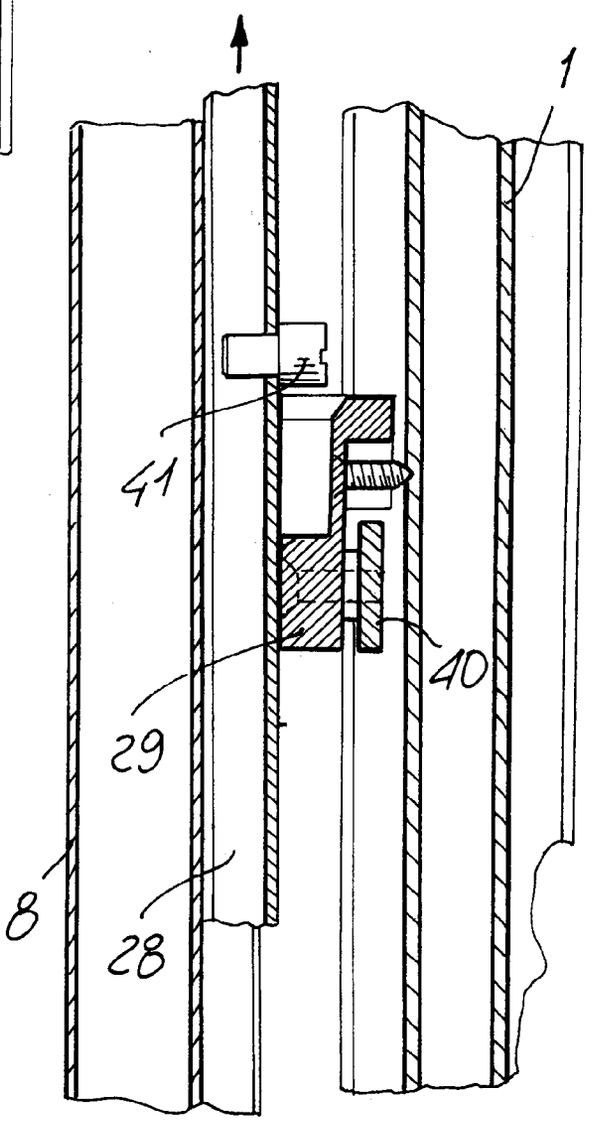

FIG. 16

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 83 0109

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)
P,X	FR-A-2 652 863 (AUBIN) * Page 4, line 13 - page 6, line 10; figures 1,4 *	1,3	E 04 B 2/96
Y		4,6,7	
A		5	
P,X	EP-A-0 432 105 (METRA METALLURGICA TRAFILATI ALLUMINIO S.p.A.) * Column 2, line 19 - column 3, line 54; figure *	1,10	
A	EP-A-0 043 105	2,8	
P,Y	EP-A-0 452 756 (W. HARTMANN & CO. (GmbH & CO.)) * Page 4, lines 9-19; page 4, line 32 - page 5, line 32; figures *	4,7	
A		8,10	
P,Y	US-A-5 076 035 (WRIGHT) * Column 3, lines 18-39; figures 2-4 *	6	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A	DE-A-3 903 117 (LEURS) * Column 2, lines 58-60; figures *	4	E 04 B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	23-06-1992	FORDHAM A.K.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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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

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