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(54) Section for window and door frames, particularly for a wing of an orientable-slat shutter

(57) A section for window and door frames, particularly for a wing of an orientable-slat shutter, includes in its profile a channel portion (1c), defining an open hollow space (2), which is provided with a first aperture having a width (ℓ) and is adapted to receive a slat driving device or other material for window and door frames.

The channel portion (1c) has, in at least one of its sides (20, 21) , a part (201, 211) delimitated, at one end, by said first aperture and, at the other end, by a weakening recess (30, 31) for a preset fracture. Said first aperture can be changed into a second aperture having a width (L) greater than the first aperture width (ℓ), by tearing one or more longitudinal strips (3, 4) of section corresponding to said parts (201, 211) of its profile, along a weakening line generated by said recess (30, 31).

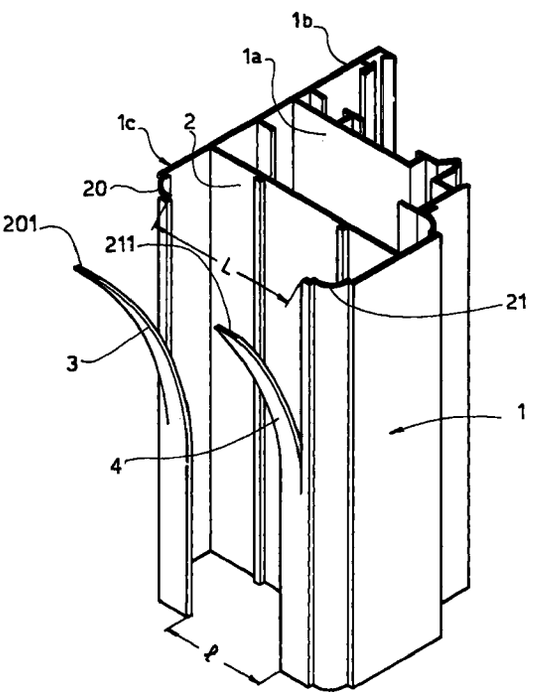

FIG. 2

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Description

[0001] The invention relates to a section for window and door frames, particularly for a wing of an orientable-slat shutter.

[0002] It is known that each wing of an orientable-slat shutter has a pair of opposite vertical members receiving a slat driving device and a cover plate, and a pair of opposite cross members housing a fixed compensating slat which can be fitted into its positioner.

[0003] Variously shaped sections are used to make wings of orientable-slat shutters. Each of these sections includes in its profile a channel portion, defining an open hollow space which is able to receive material for orientable-slat shutters, such as a slat driving device, a cover plate or a fixed compensating slat with its positioner, if any, as mentioned hereinabove.

[0004] Said material for orientable-slat shutters is of conventional sizes to be received into a suitable aperture of said open hollow space of said sections.

[0005] Therefore, apart from their different global shapes, these known sections differ from one another functionally both in shape and size of said open hollow space, more in particular in width of said suitable aperture.

[0006] Thus, up to now, window fitters have chosen their sections being conditioned by the size of this material for orientable-slat shutters. This situation has obliged the section-makers to arrange production lines of series of sections which are identical, differing only in the width of the aperture of said open hollow space. As a result, costs are increased for the section-makers who need to produce, store and distribute these series of a plurality of sections. These costs are increased more on the sale by retail because of the necessity of stock in hand and consequent locking up of capital.

[0007] The invention seeks to overcome the above mentioned drawbacks, by releasing the section-makers and distributors from the restraints created by the producers of material for orientable-slat shutters.

[0008] An object of the invention is to provide only one section which can be used with all conventional material for orientable-slat shutters.

[0009] A further object of the invention is to provide a section which can be used also for louver board wings as well as for window and door frames in that it is able to receive glass sheets, glass and wooden panels, panels made of other material, and the like.

[0010] The invention will now be described by way of example and with reference to the accompanying drawings in which:

Figure 1 is a cross-sectional view of a section for a shutter wing in accordance with the invention;

Figure 2 is a perspective view of the section in Figure 1;

Figure 3 is a perspective view of the section in Figure 1, in which a first type of material for orientable-slat shutters is embodied;

Figure 4 is a perspective view of the section in Figure 1, in which a second type of material for orientable-slat shutters is embodied; and

Figure 5 is a perspective view of the section in Figure 1, in which a third type of material for orientable-slat shutters is embodied.

[0011] In all figures numeral 1 denotes a section for window and door frames, particularly for a wing of an orientable-slat shutter, according to the invention.

[0012] Referring to Figure 1, the profile of the section 1 is generally composed of an hollow portion 1a extending, at one side, to a L-shaped member 1b and, at the other side, to a channel portion 1c. The portion 1c defines an open hollow space 2 adapted to receive a slat-driving device, a cover plate or other material, as shown in Figures 3 to 5.

[0013] It can be appreciated that the hollow portion 1a and the L-shaped member 1b can be different in their conformation from the shown ones. Therefore, they are not described any longer, as they are not important in order to expose the invention. In fact, it is only the channel portion 1c that cooperates with the above mentioned material for orientable-slat shutters. It is only the channel portion 1c, in which the invention is embodied, that allows a window fitter to use the same section substantially for any type of conventional material for slats, i.e. having different shape and size.

[0014] The channel portion 1c has sides 20, 21 of the same length. Each of the sides 20, 21 has a part 201, 211 respectively, which is delimitated, at its free end, by a first aperture having a width ℓ and, at its other end, by a weakening recess 30, 31, respectively, for a preset fracture.

[0015] In virtue of the weakening recess 30, 31, that generates a line along the length of the section 1, the first aperture of the open hollow space 2 of the section 1 as produced can be changed into a second aperture having a width L, greater than the width ℓ. This can be accomplished by the same window fitter by tearing two opposite longitudinal strips 3, 4 (see Figure 2) of the section 1. The strips 3, 4 correspond to the parts 201, 211 of the sides 20, 21 of the channel portion 1c. These strips 3, 4 can be torn by simple means, such as a pair of pliers, without causing any damage or deformation to other parts of the section 1.

[0016] Said weakening recesses 30, 31 are obtained upon the extrusion of the section by corresponding teeth, being of a right-angled triangle shape, which are proportionately provided on a die (not shown).

[0017] A window fitter accomplishes the operation of tearing the strips 3, 4 only in the case when he must fit a slat driving device, a cover plate or other similar mate-

rial that needs to be engaged with a second aperture having a width L greater than the first one in the section 1.

[0018] By way of example, referring to Figure 3, a first known type of a slat driving device provided with racks 5, 6 and spur gears (not shown) has been fitted into the open hollow space 2 of a section 1. In use, when the racks 5, 6 are moved vertically in inverse direction each other by a worm gear pair (not shown), they rotates said spur gears which are connected with respective clips 7, 8, 9 by their pins passing through a cover plate 10. In order to fit the above mentioned device into an open hollow space with a first aperture, the strips 3, 4 are not to tear.

[0019] By way of another example, referring to Figure 4, a second known type of a slat driving device provided with small bars 11, 12 and levers (not shown) has been fitted in the open hollow space 2 of a section 1. Said levers are connected with respective clips 13, 14, 15 by their pins passing through a cover plate 16, which is engaged by lateral claw elements 160 with an open hollow space 2 having a wider aperture L than the first one. In order to fit this second type of a device, the window fitter must tear the strips 3, 4.

[0020] Referring to Figure 5, a positioner 17 according to the invention adapted to retain clips 18 has been fitted into the open hollow space 2 of a section 1. As shown, the positioner 17 has, at its small face 170, an Ω-shaped profile 180 with equal sides, and, at its opposite face 171 larger than the small face 170, an Ω-shaped profile 181 with different sides. The positioner 17 has been fitted into the open hollow space 2 with the ℓ -wide aperture, its small face 170 looking onto the exterior. The positioner 17 would be fitted inverted into the hollow space 2 with the L-wide aperture.

[0021] As shown in Figure 5, the positioner 17 receives into the slot of its Ω-shaped profile 180 a prismatic base 182 of the clips 18. Fixed compensating slats of shutters can be fitted into said slots 180, 181 of the positioner 17 when the section 1 is used as an horizontal cross member for a shutter wing. Further wooden and glass panels and glass sheets can be fitted into the section 1 in other window and door frames.

[0022] From foregoing description the advantages of the invention, apart from the above mentioned ones, are clear. These advantages result from a substantially universal use of the section according to the invention in the field of the slat shutters and generally of window and door frames.

[0023] The invention as conceived is liable to changes and modifications. For example, if the section 1 has to receive a material for window and door frame, as above set forth, that requires an engagement of a different width with the section 1, the channel portion, whose sides can be of different length, can have a weakening recess for a preset fracture both in only one of its sides, or more than a weakening recess in at least one of its side. Thus, the required aperture can be accomplished by tearing one strip or more than two longitudinal strips of section, provided this does not cause any damage or deformation to other parts of the section.

Claims

1. A section for window and door frames, particularly for a wing of an orientable-slat shutter, of the type including in its profile a channel portion (1c), defining an open hollow space (2), which is provided with a first aperture having a width (ℓ) and is adapted to receive a slat driving device or other material for orientable-slat shutters, for louver board wings, or window and door frames in general, such as wooden and glass panels and glass sheets, **characterized in that** said channel portion (1c) has, in at least one of its sides, at least one part delimitated, at one end, by said first aperture having a width (ℓ) and, at the other end, by a weakening recess for a preset fracture; the first aperture being changeable into a second aperture having a width (L) greater than the width (ℓ), in the fitting of a corresponding slat driving device, a cover plate or other material, by tearing at least a longitudinal strip of section corresponding to said at least one part of its profile, along a weakening line generated by said recess.

2. A section according to claim 1, **characterized in that** said channel portion (1c) has, in each of its equal sides (20, 21), one part (201, 211) delimitated, at one end, by said first aperture and, at the other end, by a weakening recess (30, 31) for a preset fracture; said second aperture being obtained by tearing two longitudinal strips (3, 4) of section corresponding to said parts (201, 211), along weakening lines generated by said recesses (30, 31)

3. A section according to claim 1, **characterized in that** said open hollow space (2) is adapted to receive a positioner (17) for slats, fixed compensating slats, glass sheets and wooden and glass panels, or the like, which has, at its small face (170) , an Ω-shaped profile (180) with equal sides, and, at its opposite face (171) larger than the face (170) , an Ω-shaped profile (181) with different sides; said positioner (17) being fitted into the open hollow space (2) with said first aperture, with its small face (170) looking onto the exterior, or being fitted inverted into said hollow space (2) with said second aperture.

4. A section according to claim 1, **characterized in that** said weakening recess is obtained upon the extrusion of the section by a corresponding tooth, being of a right-angled triangle shape, which is proportionately provided on a die.

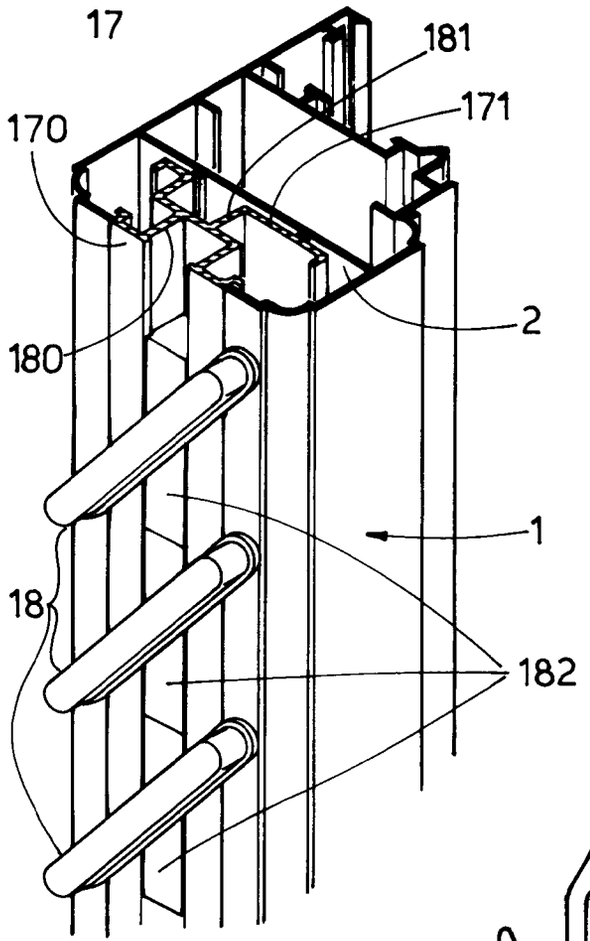

FIG. 5

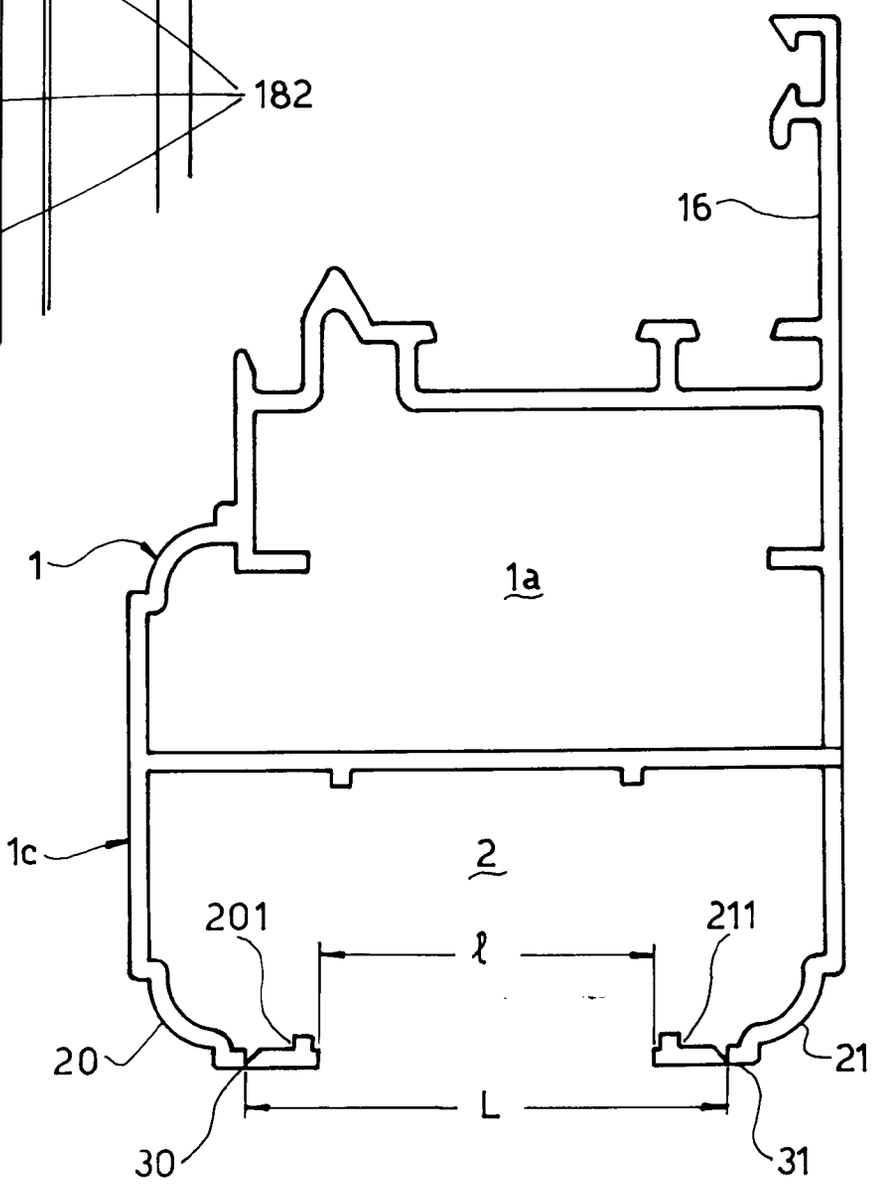

FIG. 1

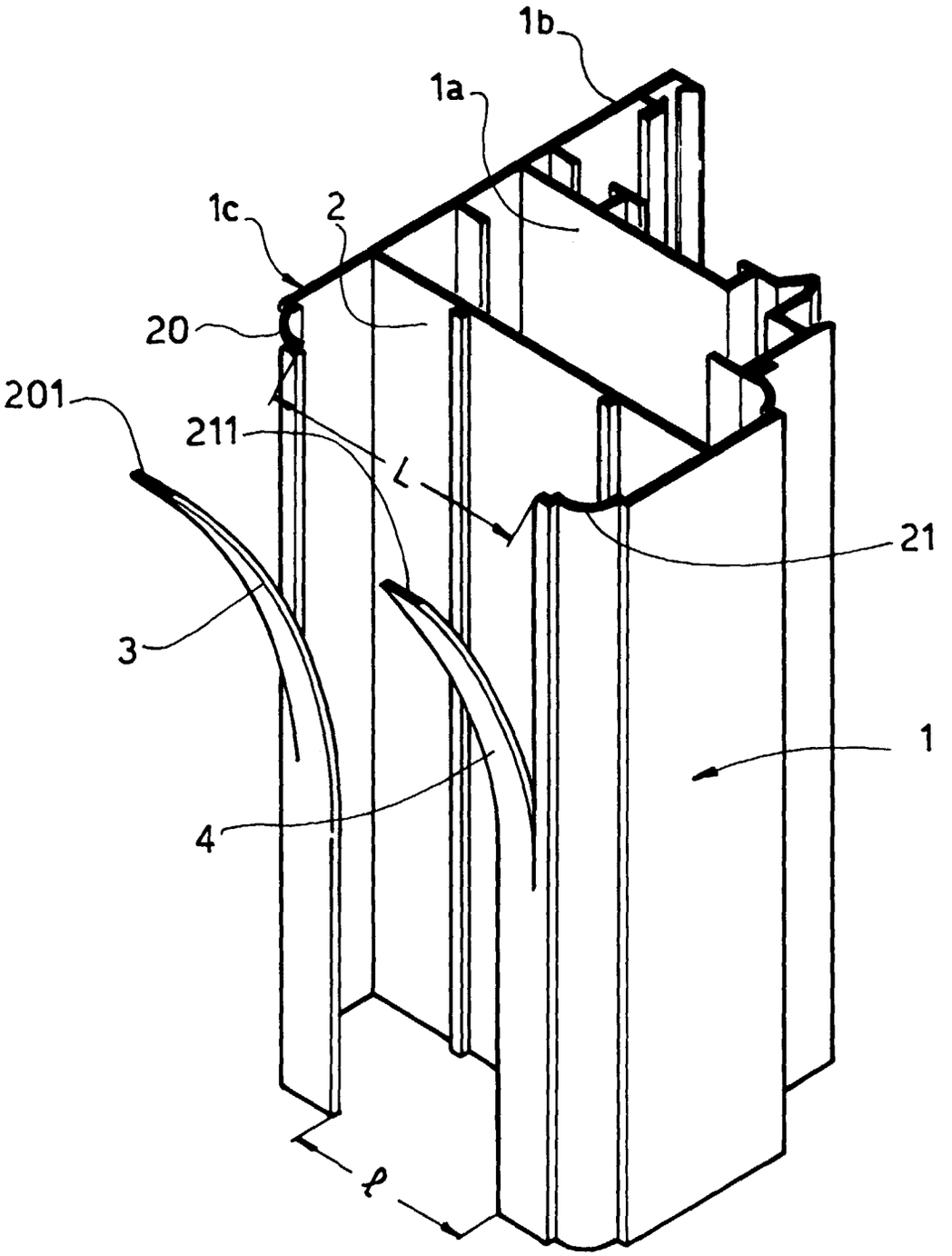

FIG. 2

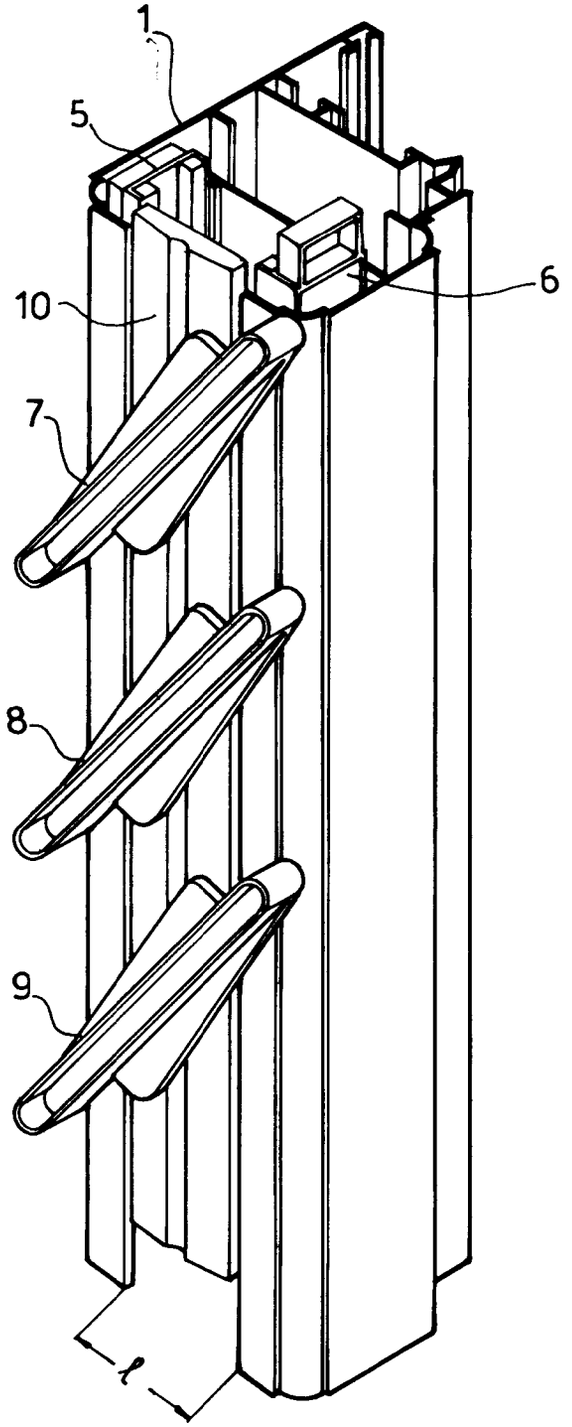

FIG. 3

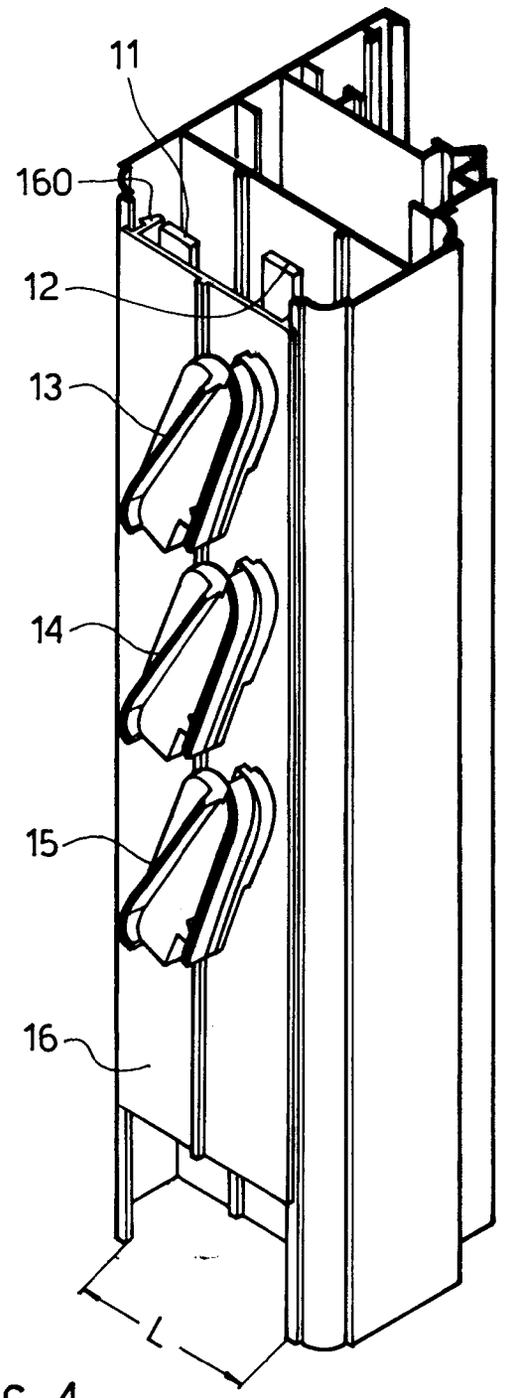

FIG. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 97 83 0604

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.6)
X	FR 2 689 541 A (BARRIOS, M.) * page 2, line 41 - page 2, line 43; claim 6; figure 2 *	1,2	E06B3/58 E06B7/08
A	FR 2 288 209 A (WILH. FRANK GMBH) * the whole document *	1,2	
A	EP 0 220 355 A (KIKAU S.R.L.) * the whole document *	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)
E06B E04B F16S

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	6 April 1998	Knerr, G

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 97 83 0604

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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06-04-1998

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