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(54) **Counterframe profile for a concealed sliding door with plaster sealing section**

(57) Counterframe profile for a concealed sliding door with a plaster sealing section in which at least the vertical sections, jambs, forming the opening of the case of the counterframe are shaped in such a way that the front end comprises a shaped element consisting of a first section that projects orthogonally in relation to the rectilinear part of the front profile and a second section, relative to the first, arranged obliquely and provided with

clamping teeth for the plaster, wherein the head end of said section is provided with an angular profile and the portion of the profile that is to be found above the protruding portion is provided conventionally with a seat for a brush and is also provided with clamping teeth for the plaster, furthermore the head end of the portion of the front profile that is found above the protruding portion provides ends with a holding tooth orthogonal to the rectilinear part of the front profile.

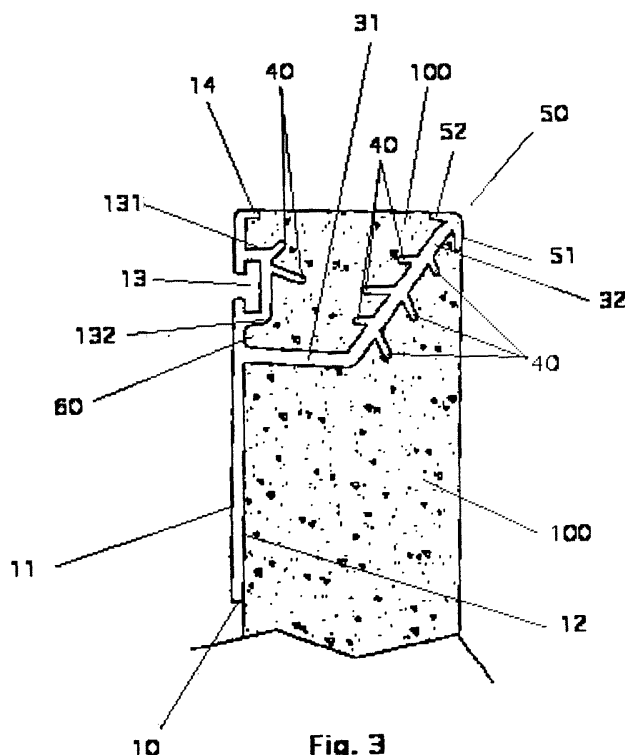


Fig. 3

Description

[0001] This invention relates to a profile for a counter-frame for a concealed sliding door with a plaster sealing section.

[0002] The proposal finds particular although not exclusive application in the industry sector relating to the production of components for closures, particularly for closures that are made up of doors of the concealed sliding type.

Field of the Invention

[0003] Closure structures consisting of sliding doors of the concealed type have been known for some time. At least in their essential structure, they substantially constitute a series of fixed elements intended to be integrated into the building structure while also constituting, when coated, a wall, as well as a series of movable parts, the latter intended to be used during the installation stage of the door in order to be removed subsequently. Therefore, a counterframe is to be integrated into the building structure. The aforementioned fixed elements are associated to the building structure and comprise at least one case intended to constitute the structure within which the door panel will be contained once said panel is made to slide until reaching the open position, in addition to a rabbet stanchion intended to be anchored to the wall in correspondence to the vertical profile of the door frame, opposite to the positioning profile of the aforementioned case, in way such as to allow the door, once placed in the closed position, to shelter itself on it. Furthermore, on the upper part of the same case, a longitudinal guide is engaged, being screwed to the said load-bearing structure. The provision of a sliding track is conventionally provided in order to allow the effective opening and closing movement of the sliding door. The door is suspended from the aforementioned sliding track by conventional means, usually of the trolley type. In order to allow the opening and closing movement of the door, provision is usually made for the sliding track, which is placed in correspondence with the upper part of the door frame structure, to be equipped with sliding means.

Prior Art

[0004] In the prior art, more than one solution is found in which proposals are illustrated for counterframe profiles for sliding doors that are intended to be included in the plaster of the building structure. As an example, in EP0505614 (De Faveri), a counterframe is proposed that provides a case on the interior of which is introduced a sliding door and a track longitudinally joined with respect to a cross-piece, where the rabbet profile of the aforementioned case is such as that it is integrated into the plaster of the building structure.

[0005] A second solution is found in US2765885 (Stefan), in which a frame for a sliding door of the suspended

type is described. The shape of the profile or rather of the section on the transversal surface of the frame, jamb or cross-piece, outlines a form that allows the surface finishing of the two opposite lateral walls that define the space to end in correspondence with the end of the profile, therefore, extending so far as to border and delimit the space.

[0006] A third solution is given in JP49-88524 (Seiki et al.), that describes a structure for sliding doors of the type engaged with tracks, in which the finishing faces of the wall involving said door, extend at least until the defining edge of the opening space.

[0007] Another solution is found in Patent Application no. F02001 A000009 (Scrigno) that describes a concealed sliding door and relative frame of the type in which the door is suspended from a sliding track and allows the door to be moved while opening thus transferring it to the interior of a metallic shutter box (case) intended to replace the corresponding portion of wall with its own encumbrance, characterised in that to avoid having to match the jambs, cross-pieces and the related frame butt-straps to the aesthetic characteristics of each selected door, the jambs and the cross-pieces of the new frame are shaped and arranged to define the space of the door in such a way that they are out of sight and are only visible in the thickness of the wall whose face surface finishing, with plaster or the like, extends until bordering and defining said space.

Drawbacks

[0008] The known prior art shows that all the known current solutions are not free from drawbacks and limitations. In the opinion of the applicant, a first limitation common to all said solutions consists in the poor finishing that said solutions guarantee, above all in relation to the integration of the profiles of the case in the plaster covering.

[0009] A second limitation, also in the opinion of the applicant common to all the known solutions although pertaining to the solutions that provide an almost complete integration of the profile of the case in the plaster, consists in not concealing the sides constituting the jambs and in the poor sealing guarantee of the plaster once the latter is ready for finishing.

[0010] A further limitation highlighted in the illustrated known solutions, particularly regarding the solutions F02001 A000009 (Scrigno), is that concerning the possibility that the plaster, once ready for finishing, could detach in coincidence with the connection area between the plaster forming the face and the plaster of the head portion, orthogonal to the side of the face, with the consequent degradation of the aesthetic aspect and the consequent need to execute successive maintenance interventions.

[0011] A further limitation, in the opinion of the applicant, and a direct consequence of the aforementioned drawbacks is the establishment of an increase of coun-

terframe installation times and costs, particularly with reference to foreseeable subsequent maintenance interventions.

[0012] The need therefore arises in relation to that considered to find alternative solutions or at least more functional solutions with respect to those in existence at present.

[0013] The aim of this invention is also to overcome the aforementioned limitations or drawbacks.

Summary of the Invention

[0014] This and other aims are achieved by the present invention according to the characteristics in the included claims that resolve the arising problems by means of a counterframe profile for a concealed sliding door with a plaster sealing section where at least the front vertical sections, jambs, forming the opening of the case of the counterframe are shaped in such a way that the front end comprises a shaped element made up of a first section that projects orthogonally in relation to the rectilinear part of the front profile and a second section positioned obliquely in relation to the first and provided with clamping teeth for the plaster, where the head end of the same is provided with an angular profile and the portion of the profile that is found above the protruding portion is provided conventionally with a seat for a brush and is further provided with clamping teeth for the plaster, furthermore the head end of the portion of the front profile that is found above the protruding portion provides ends with a holding tooth orthogonal to the rectilinear part of the front profile.

Advantages

[0015] In this way, through the notable creative contribution whose effect constitutes immediate technical progress, certain objectives are achieved.

[0016] A first aim consists in producing a counterframe profile for a concealed sliding door with a plaster sealing section by means of whose particular shape it is possible to optimise the sealing of the plaster finishing and thus to avert the danger of successive detachments of the said plaster, particularly in correspondence to the head portion, orthogonal to the face side.

[0017] A second aim consists in producing a counterframe profile for a concealed sliding door with a plaster sealing section by means of whose particular shape it is possible to obtain an improvement of the clamping conditions of the plaster thus avoiding having to carry out subsequent restoration interventions.

[0018] A third advantageous aim consists in producing a counterframe for a concealed sliding door with a plaster sealing section by means of whose particular shape it is possible to improve the integration of the counterframe in the building structure, above all concealing the sides corresponding to the jambs, simultaneously increasing the aesthetic value.

[0019] A further aim consists in producing a counter-

frame for a concealed sliding door with a plaster sealing section by means of whose particular shape it is possible, in relation to the similar known solutions, to obtain a notable reduction in the successive maintenance interventions to the installation, with the consequent containment of the relative costs.

[0020] These and other advantages will appear from the following detailed description of at least one preferred embodiment solution with the aid of the enclosed schematic drawings.

Content of the Drawings

[0021]

Figure 1 represents a partial view of the assembly of the counterframe for a concealed sliding door according to the device that is the object of the present invention;

Figure 2 represents an orthogonal sectional view of the plaster sealing section of the counterframe profile for a concealed sliding door according to the device that is the object of the present invention;

Figure 3 represents an orthogonal sectional view of the plaster sealing section of the counterframe profile in Figure 1 with the plaster applied.

Description of an Embodiment

[0022] Also taking the Figures as a reference, it is observed that this invention consists of a counterframe profile for a concealed sliding door with a plaster sealing section, in which a counterframe for sliding doors of the concealed type includes a case 1, within the area of the which the door of a sliding door of the sliding type is intended to be contained conventionally, wherein the front profile 10, 20 of at least the vertical walls 80, 90 of the case 1, constituting the jambs of the opening of the case 1, is rectilinear and shaped in such a way as to comprise a shaped protruding portion 30, placed in correspondence with the external face 12, opposite to the internal face 11, of the front profile 10 of the case 1. At least the front profile 10 (see Figure 3) comprises, in correspondence with the side directed towards the interior of the case 1, the protruding portion 30 provided with clamping teeth 40, that constitutes a longitudinal containment seat of the plaster, being defined on one side by the internal face 12 of the front profile 10 and on the other side by the internal face of at least a first section 31, 32 that originates in the front profile 10 in a rear position with respect to the holding tooth 14 that extends until reaching a point in correspondence with the angular end 50 that is remote and aligned orthogonally with respect to holding tooth 14 of the front profile 10.

[0023] Mainly in the embodiment example that is described, the protruding portion 30 is made up of a first section 31 that projects orthogonally in relation to the external face 12 of the front profile 10 of the case 1, and

a second section 3 2, following the first section 31, said second section 3 2 is positioned obliquely in relation to the first section 31, forming with the same an angle of 45°. The protruding portion 30 provided in correspondence with the second section 32 component, is provided on both opposite sides with clamping teeth 40 for the plaster 100. The clamping teeth 40 with which the second section 3 2 of the protruding portion 3 0 is provided, as in the example illustrated in Figure 2, between each other are of an unequal height and provision is made for each one to be placed in such a way as to be in relation to the second section 32, parallel in relation to each other and arranged in a herringbone, being oriented in the direction of the first section 31 of the protruding portion 30. Furthermore, in correspondence with head end of the second section 32, the protruding portion 30 is provided with an angular end 50 shaped in the form of an "L". In detail, provision is made for the angular end 50 to be positioned in such a way that the second section 32 of the protruding portion 30 coincides with the bisector line of the right angle of which the angular end 50 itself being the first side 51 and the second side 52 forming the angular end 50, both being of equal length and thus providing that the external part of the same is flat and that the external part of the angle formed by the connection of the first side 51 and of the second side 52 is rounded. In this way, provision is made for the first side 51 of the angular end 50 to be parallel to the external face 1 2 of the front profile 1 0 and for the second side 52 of the angular end 50 itself, being orthogonal to the first side 51, to be similarly orthogonal to the rectilinear part of the front profile 10. In correspondence to the head end, the rectilinear portion of the front profile 1 0 that is found above the protruding portion 30 is shaped in such a way as to be provided with a holding seat 1 3 in the form of a "T" for the conventional positioning of a brush that serves as an anti-dust barrier, wherein the holding seat 1 3 is placed conventionally, in such a way that the brush, after having been positioned can find itself in contact with the door of the sliding door. Opposite the holding seat 1 3 provided, in correspondence with the external face 1 2, in the example in correspondence with the upper angle 1 31 formed by said holding seat 1 3 itself, the head end of the rectilinear part of the front profile 10 that is found above the protruding portion 30 is provided with two clamping teeth 40 for the plaster 100, said clamping teeth 40 being arranged in the form of a "V" and having, in relation to each other, an unequal height. Furthermore, the head end of the portion of the front profile 1 0 that is found above the protruding portion 30 provides ends with a holding tooth 14 orthogonal to the rectilinear part of the front profile 10. Between the first section 31 of the protruding portion 30 and the lower angle 132 formed by the lower part of the holding seat 13 there is a handle 60. Furthermore, provision is made so that the holding tooth 14, with which the head end of the front profile 10 is provided, must be aligned with the second side 52 of the angular end 50 and, furthermore, that the first side 51 of the angular end 50 must

be parallel with the rectilinear part of the front profile 1 0.

Claims

1. Counterframe profile for a concealed sliding door with plaster sealing section of the type including the front profile 10, 20 of the vertical walls of the case 1 **characterised in that** at least the front profile 10 includes, in correspondence with the side directed towards the interior of the case 1, a protruding portion 30 provided with clamping teeth 40, that constitutes a longitudinal containment seat of the plaster, being defined on one side by the internal face 1 2 of the front profile 1 0 and on the other side by the internal face of at least a first section 3 1, 3 2 that originates in the front profile 10 in a rear position with respect to the holding tooth 1 4 that extends until reaching a point in correspondence with the angular end 50 that is remote and aligned orthogonally with respect to the holding tooth 14 of the front profile 10.
2. Counterframe profile for a concealed sliding door with a plaster sealing section according to claim 1 **characterised in that** the front profile 10, 20 of at least the vertical walls of the case 1 comprises a protruding portion 30 provided with clamping teeth 40, wherein the rectilinear portion of the front profile 10 that is found above the protruding portion 30 is shaped in such a way as to be provided with a holding seat 1 3 for the conventional positioning of an anti-dust brush and, in correspondence with the internal face 12, provided with clamping teeth 40 and in which the protruding portion 30, in correspondence with the head end is provided with an angular end 50 and the head end of the portion of the front profile 1 0 that is found above over the protruding portion 30 is provided with at least one holding tooth 14 orthogonal to the rectilinear part of the front profile 10.
3. Counterframe profile for a concealed sliding door according to claim 1 and 2 **characterised in that** the angular end 50 with which the protruding portion 30 is provided has the form of an "L", being provided with a first side 51 orthogonal to a second side 52, wherein the holding tooth 14 with which the head end of the front profile 1 0 is provided is aligned with the second side 52 of the angular end 50 and, furthermore, the first side 51 of the angular end 50 is parallel to the rectilinear part of the front profile 10.
4. Counterframe profile for a concealed sliding door according to the previous claims **characterised in that** the protruding portion 30 is made up of a first section 31 that projects orthogonally in relation to the external face 1 2 of the front profile 10, and a second section 32, positioned obliquely in relation to the first section 31, forming with the same an angle of 45°,

said second section 32 coinciding with the bisector line of the right angle according to the angular end 50.

5. Counterframe profile for a concealed sliding door according to the previous claims **characterised in that** the first side 51 and the second side 52 forming the angular end 50 are of equal length and **in that** the external part of both sides is flat and **in that** on the exterior the angle formed by the connection of the first side 51 and the second side 52 is rounded.

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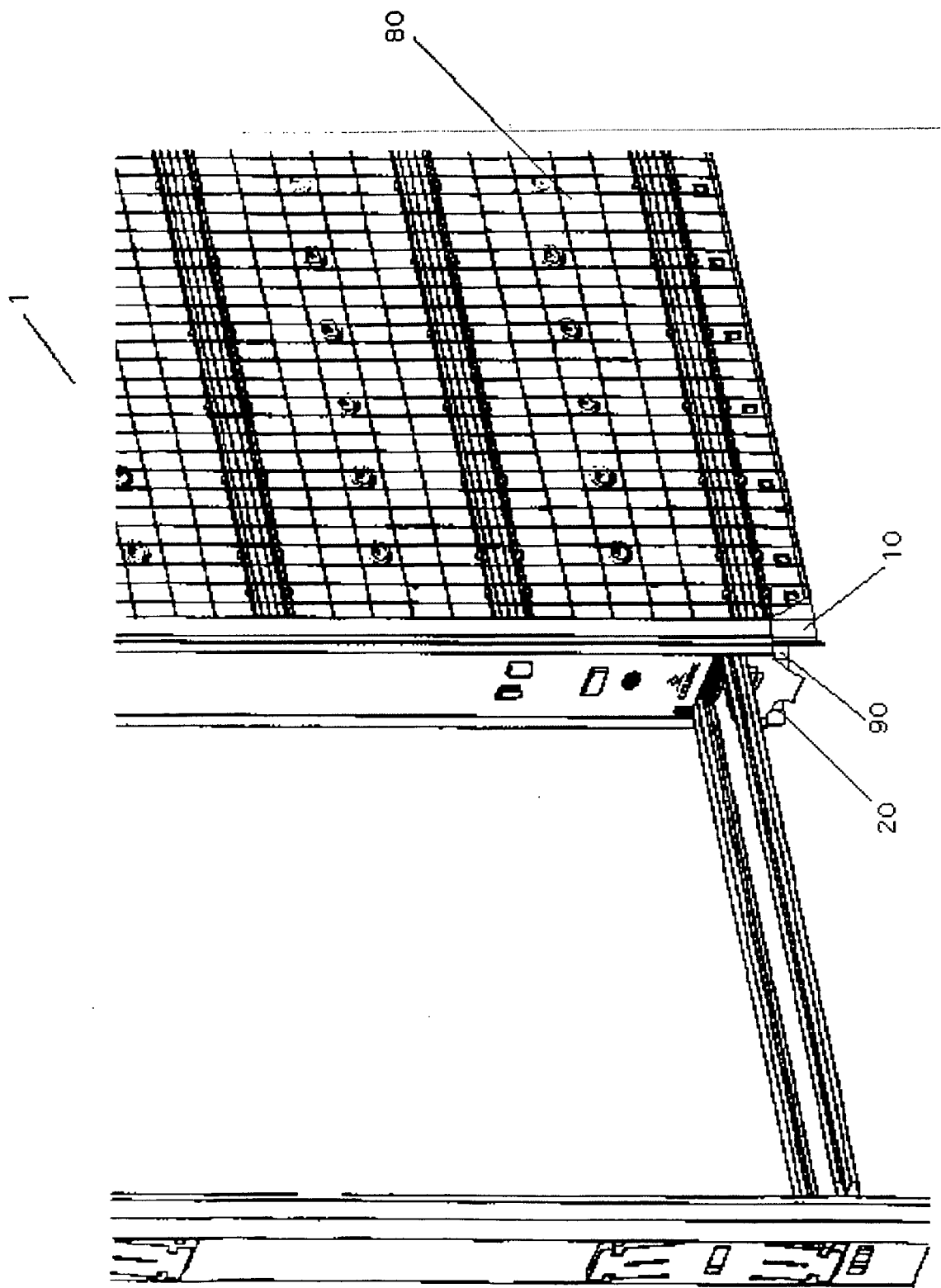


Fig. 1

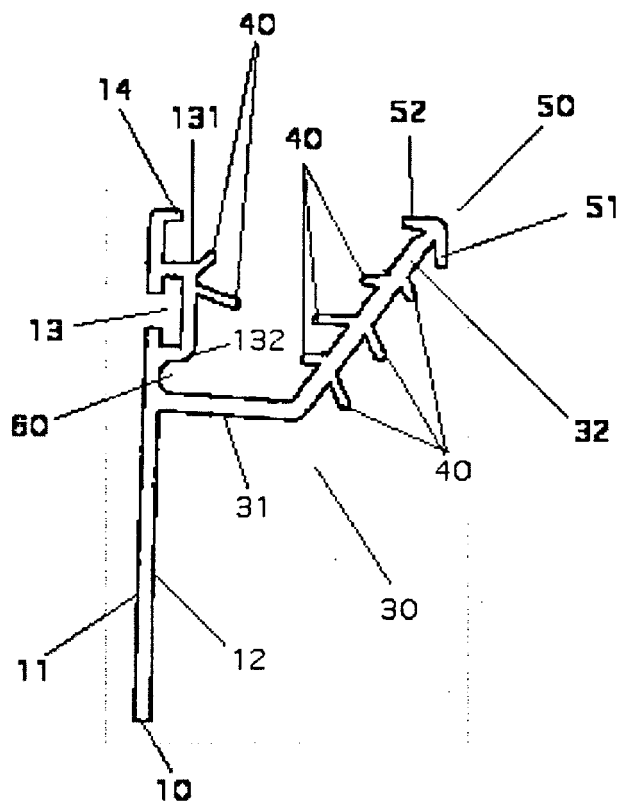


Fig. 2

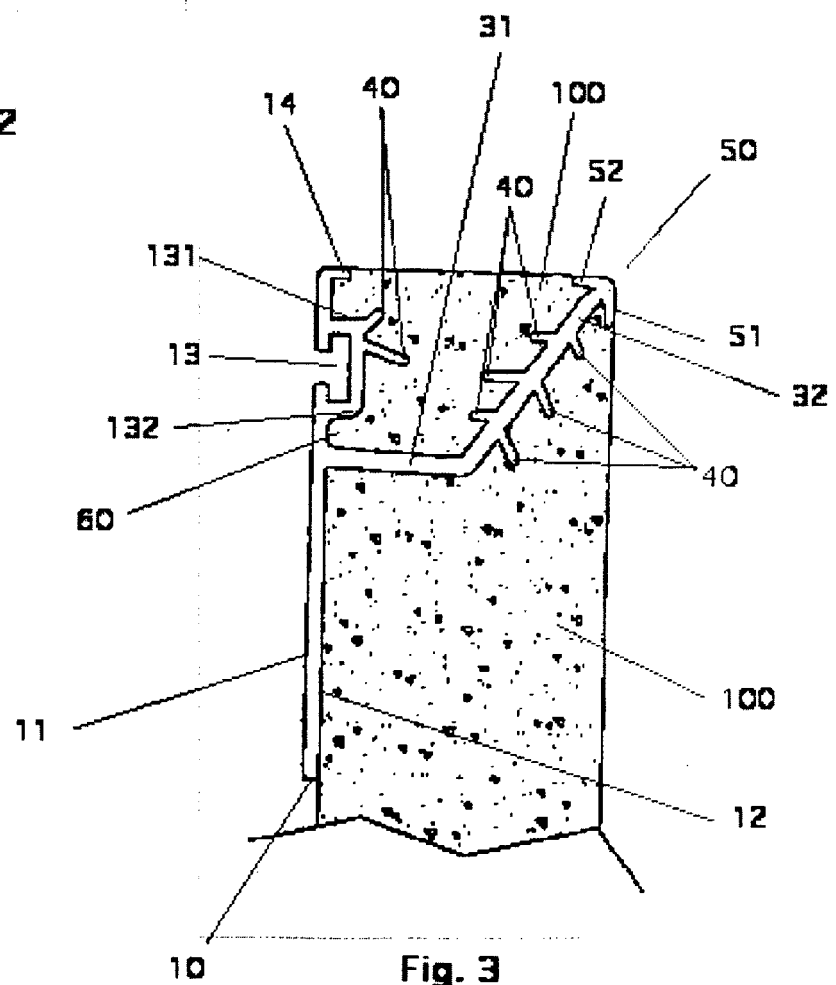


Fig. 3

REFERENCES CITED IN THE DESCRIPTION

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