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(54) **Prefabricated door or window frame unit with an insulating surround**

Vorgefertigte Tür- oder Fensterrahmen-Einheit mit isolierender Randeinfassung

Encadrement de porte ou fenêtre préfabriqué avec une bordure isolante

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EP 2 161 402 B2

Description

[0001] This invention regards a counter-frame structure for a window, a French window or a skylight to be inserted in an opening in a wall or roof, separating the interior and exterior of a building.

[0002] With view to optimising the building's heat insulation the frames are made with special attention to the selection of materials, inserting suitable insulation materials into the sections comprising the frames, for example a polystyrene or a polyurethane foam, and/or envisaging appropriate gaskets between the mobile and fixed parts of the frames. In this way it is sought to increase the frame's thermal cut-off and thus increase its insulation coefficient.

[0003] However it is well known that there are considerable thermal bridges - hence sources of heat dispersion - at other points of the frame, in particular with regard to the counter-frame, i.e. in the zone of anchorage of the counter-frame to the wall, the sills, the box shutter etc.

[0004] Reducing these thermal bridges results in a considerable increase in the overall insulation coefficient of the frame.

[0005] The attempt to limit this heat dispersion has, to date, been limited to connecting any external protective skin of the building's wall to the door or window frame. This however calls for considerable modification of the wall and requires the presence of the architect and building contractor, with a consequent increase in installation time and costs.

[0006] FR-A-2 539 801 discloses a prefabricated element suitable to be fitted into an opening of a wall for forming a decorative covering for the opening and making it possible to receive the framework of the corresponding doors or windows. The prefabricated element may be filled with a thermal insulating material.

[0007] DE 299 05 365 U1 discloses a pre-finished heat insulating element for the inner edge of a wall with an opening, e.g. for doors and windows.

[0008] EP-A-1 455 027 discloses a heat insulation kit applied externally to a cellar ventilation window to prevent the formation of a heat bridge between the cellar well and the light shaft.

[0009] DE 20 2006 004425 U1 discloses a framework assembly including a door frame, window sash and a damming system, resting against the frame work assembly, formed according to building material class A1 or A2.

[0010] EP-A-1 172 495 discloses a thermal insulation of the surround frame of a building opening, comprising at least two first heat insulating elements for arranging above and below the building opening, and at least two second heat insulating elements for arranging next to the first elements and lateral to the building opening.

[0011] The purpose of this invention is to propose a counter-frame structure that gives the entire frame system greater thermal efficiency while at the same time obviating the installation drawbacks mentioned above.

[0012] Such purpose is achieved with the use of a

counter-frame structure according to claim 1. The dependent claims describe preferred embodiments of the counter-frame. In brief, one innovative feature common to all the embodiments of the proposed counter-frame structure is the fact that it is created as a single block comprising a counter-frame and an insulating surround, ready for installation in the opening of a wall or roof and such as to obtain immediate and optimal heat insulation without the need for further intervention.

[0013] The other functional elements of the frame structure, such as the frame itself with accessories and blinds, can be assembled at the time of installation since the structure is adaptable to any type of frame and blind or - most favourably - can be supplied to the building contractor already mounted on the structure.

[0014] In particular, it is extremely advantageous to be able to supply the builder with a single block, already cement rendered (or pre-rendered) and equipped, in the case of windows, with sills. In this way building intervention on the frame is reduced to a minimum.

[0015] It should moreover be underscored that the structure is suitable for installation in any kind of wall with any thickness whatever of external protection.

[0016] In particular, the structure is conceived for mounting prior to application of the insulating skin, taking into account the thickness thereof in such a way that subsequently any discontinuity between frame and wall can be eliminated. Insulation of inclined external surfaces or reveals can be carried out at various angulations.

[0017] In any case, the structure in accordance with the invention reduces, if it does not eliminate, the thermal bridges still found in state of the art frames, in particular between wall and counter-frame, between wall and reveals insulation and between wall and skin, all of this without burdensome building work. In other words, once installed the frame is already completely insulated.

[0018] The structure is conceived in such a way that various types and sizes of insulation may be used, e.g. up to 400 mm thickness.

[0019] A further advantage is that the customer can deal with one single supplier for counter-frame, frame insulation, blinds and internal/external sills.

[0020] Lastly, it should be noted that the counter-frame structure is applicable to frames in any material whatsoever, e.g. wood, aluminium, PVC or combinations thereof, and can be used in various types of buildings such as prefabs, traditional buildings in masonry and concrete and also in renovations.

[0021] For a better understanding of the invention and appreciation of its advantages, some forms of its implementation are described below, by way of example and not limitative, with reference to the attached drawings in which:

Figure 1 is a frontal view of a window counter-frame structure in accordance with the invention;

Figure 2 is a frontal view of a window and French window counter-frame structure in accordance with

the invention;

figure 3 is a section view along the line A-A in figure 1;

figure 4 is a section view analogous to figure 3 but with the frame mounted;

figure 5 is a vertical section view of the counter-frame structure for a French window;

figure 6 is a section view along line B-B in figure 1;

figure 7 is a section view along line B-B in figure 1;

figure 8 is a vertical section view of a non-claimed example of a counter-frame structure for a window; figure 9 is a horizontal section view of the frame structure in figure 8;

figure 10 is a vertical section view of a counter-frame structure for a window with an adjustable slats blind device;

figure 11 is a view analogous to the previous one but for a French window;

figure 12 is a horizontal section view of the frame structure in figure 10;

figure 13 is a vertical section view of a non-claimed counter-frame structure for sliding French windows;

figure 13a is a view analogous to the previous one but with structure including blind element;

figure 14 is a horizontal section view of the counter-frame structure in figure 13a;

figure 15 is a vertical section view of the frame structure of a window with fixed glazing; and

figure 16 is a horizontal section view of the frame structure in figure 15.

[0022] With reference to the figures (where equivalent elements are indicated with the same numerical references), in accordance with a general embodiment, the counter-frame structure of the present invention comprises a counter-frame 10 for door and window frames and an insulating surround 12, in heat insulation material, which surrounds counter-frame 10 at least on the sides facing wall 5 in which it is to be placed and facing the exterior of the said wall. Counter-frame 10 and insulating surround 12 are connected in such a way as to form a single block 1; 2 to be inserted in an opening in wall 5.

[0023] An example of heat insulation material is a thermoplastic polymeric material, in particular a polystyrene.

[0024] In accordance with the invention, the insulating surround 12 is of such thickness as to extend between internal side 5' and external side 5" of wall 5 in which the structure is inserted. As will be better exemplified below, such a thickness of insulating surround 12 permits, in the upper part, incorporation of a recess or other containing and guiding devices for the blind elements 42,48 of the frame and, in the lower part, the creation of a support base for the internal 22 and external window sills 23.

[0025] It should be noted that in the examples illustrated the counter-frame structure is suitable for insertion in a wall 5 consisting of a part in masonry 6 and an external protective facing known as "skin" 7. Further, the insulating surround 12 extends frontally to the level of skin 7 in such a way as to create a continuous insulation between

the heat insulation material of the surround 12 and that of skin 7.

[0026] To this end surround 12 comprises a frontal portion 7a with the same thickness and in the same material as skin 7, and a rear portion 6a, also in insulating material, corresponding to the thickness of the masonry part 6. In this way, whatever the sizes of the space in the wall 5 and of the counter-frame 10, thanks to the perimeter insulation parts 6a and 7a the counter-frame structure can be adapted to the size of the space and therefore inserted in the wall 5 with extreme precision, connecting it up with insulating materials to the elements comprising the wall itself.

[0027] Most favourably, the internal and external surfaces of insulating surround 12, meaning those facing the interior 5' and exterior 5" of the building, are covered with a layer of rendering 14 which extends to conceal counter-frame 10. In other words, the rendering operation, usually carried out with the counter-frame 10 installed, takes place at building phase, thus avoiding soiling or damaging the counter-frame 10 at the door/window installation phase.

[0028] More precisely, on the surface facing the exterior 5" a pre-rendering operation is carried out in such a way that, having mounted the counter-frame 10, the builders then carry out a final rendering that connects the external surface of the counter-frame structure with the wall 5 of the building.

[0029] In accordance with one embodiment, the coat of rendering 14 or pre-rendering is laid on scrim or template 16 which covers the internal and external surfaces of insulating surround 12.

[0030] In accordance with the present invention, insulating surround 12 is profiled in such a way as to define at least one housing 18 for a blind element 42,48 (as will be better specified below in the description of examples of implementation).

[0031] Moreover, the insulating surround 12 integrates, or is equipped to integrate, at least certain functional elements of the door/window-frame 32 such as guides for sliding parts 44,49 and sealing elements against water or dust.

[0032] Most favourably, the guides 44,49 for rolling or sliding elements are created in insulating surround 12 at a distance from the elements of counter-frame-10 in such a way as to interpose layer 12" of heat insulation material. This results in avoiding or reducing the effect of any thermal bridge that would be created by contact between the said guides and counter-frame 10.

[0033] In the case of a counter-frame 10 for a window, the insulating surround 12 includes a base element 20 which can be covered by at least one plate in such a way as to create internal sill 22 and/or external sill 23 of the window-frame 32.

[0034] In accordance with one embodiment, the insulating surround 12 extends in such a way as to at least partially overlap frame 30 which is fixed, or will be fixed upon installation, to counter-frame 10. At least partial

overlapping is understood as being at least from the part facing the exterior 5". In fact in this way the external side of frame 30 is covered by insulating surround 12 and therefore benefits from greater thermal protection. Having thus limited cooling of the exposed surface of frame 30, heat dispersion from interior 5' to exterior 5" by way of the frame 30 is therefore avoided right from the start.

[0035] According to one embodiment, the insulating surround 12 actually extends also to overlap the opening window-frame 32 in such a way that only the glazed part is visible from outside. In this case, over and above the aesthetic result, external surface cooling of both frame 30 and opening window-frame 32 is avoided, thus reducing overall heat dispersion.

[0036] Given that especially in the cases described above - in which insulating surround 12 overlaps the frame 30 and the opening window-frame 32 - parts of the upright 10" and parts of the upper lower horizontal sides 10' of insulating surround 12 in practice visually delimit the opening in the wall 5, these parts may be advantageously faced with the respective profiles 34, for example U-shaped and also including angle-joints in metal or plastic material, thus giving a pleasing aesthetic effect.

[0037] Furthermore, the use of a surround 12 in heat-insulation material that extends to the external surface 5" of the wall 5, with the possibility of easily forming the surround elements according to taste, means that the frame structure can be connected to the said external surface 5' with special lines, for example with inclined surfaces 36 that open towards the exterior. This among other things means maximising the entry of light through the door/window frame, especially when the surround 12 overlaps the frame. It should be noted that to date the same result has been sought by breaking the wall 5 or the external protective skin 7, with considerable negative consequences in terms of time and costs.

[0038] In accordance with one embodiment, insulating surround 12 is formed by a plurality of elements 12', for example in the form of square bars or blocks, closely coupled in such a way as to leave no interstices through which heat could be propagated.

[0039] These elements 12' of surround 12 are coupled by means of flat and extended contact surfaces or, even more favourably, are linked with a geometrical or jointed coupling.

[0040] In any case, at least some of the elements 12' of surround 12 are fixed to counter-frame 10 of the door/window-frame. In accordance with preferred embodiments, said elements 12' of surround 12 are fixed to the counter-frame 10 by gluing and/or by screwing and/or by means of clamps or profiled sheet metal.

[0041] In particular, and most favourably, the upper and lower horizontal sides 10' and vertical sides or uprights 10", that define the sides of counter-frame 10, and the adjacent elements of surround 12, are profiled to be coupled geometrically or by a joint. For example, the said sides 10', 10" of counter-frame 10 have a longitudinal channel 11 in which a corresponding longitudinal projec-

tion 13 of the surround elements is inserted.

[0042] Figures 1 and 2 illustrate two counter-frame structures of a window and a French window respectively, in accordance with the invention, seen from the interior. The said figures show the counter-frame 10 (including upper and lower horizontal sides 10' and vertical sides or uprights 10") with the insulating surround 12, formed by elements 12', 20. Moreover there is also a box 40 for a roller blind 42 (figures 3 and 4), also inserted in surround 12 and, in figure 1, an internal sill 22.

[0043] The latter rests on the base element 20 of surround 12.

[0044] In the embodiment of counter-frame structure 2 for French window (figures 2 and 5) no base element 20 is provided as support for sills 22, 23, but the surround 12 terminates in any case with a lower horizontal bar 20' suitable for setting into the floor to prevent the passage of heat from the lower part of the frame. To this end it should be noted that lateral elements 12' of insulating surround 12 extend in the lower part to the level of the lower extremity of bar 20'.

[0045] Most favourably, therefore, in the case of both window and French window, the whole perimeter of counter-frame 10 is surrounded and enveloped by insulating surround 12.

[0046] Figures 3 and 4 illustrate a vertical section of counter-frame structure 1 for a window, before and after fixing of the actual door/window-frame 30, 32 to counter-frame 10. The internal and external sills 22 and 23 can be seen resting on base element 20. The upper horizontal element 12' of surround 12 has, frontally, towards the exterior of the door/window-frame, a box structure suitable for delimiting housing 18 for a box 40 containing a roller blind element 42. It may moreover be seen that insulating surround 12 comprises, as well as the upper element mentioned above that rests on the jamb of the counter-frame 10, a further profiled section indicated as 12a which covers the frontal side of counter-frame 10 and also extends to overlap frame 30. As mentioned previously, profile 12a of surround 12 and the upper horizontal side 10' of the counter-frame 10 are coupled geometrically with a male (longitudinal projection 13)-female (longitudinal channel 11) type joint. An analogous arrangement of the elements of the counter-frame 10 and the insulating surround 12 are found in the lower part of the counter-frame structure. Figures 3 and 4 moreover show guide 44 for movement of roller blind element 42.

[0047] Figure 5 moreover shows a horizontal element 10a for fixing surround 12 to counter-frame 10. This horizontal element 10a, for example a wooden bar, is sunk into upper transversal element 12' of surround 12 to connect the latter, e.g. by means of screws, to the lower horizontal side 10' of counter-frame 10.

[0048] In the horizontal sections of figures 6 and 7, with regard to counter-frame for a window and the counter-frame for a window/French window combination, It is possible to note the side profiles 12' of surround 12 that accompany uprights 10" of the counter-frame 10. Note the

presence of inclined surfaces 36 obtained in the said profiles. In these figures it can moreover be observed how guide 44 for blind element 42 is part of the side profiles 12' and distanced from the counter-frame 10, with the interposition of a layer 12" of heat insulation material.

[0049] Figures 8 and 9 illustrate a simpler counter-frame structure for a window, e.g. for a window with shutters, therefore without an integrated blind element. In this case, the upper part of surround 12 is limited to profile 12a which is joint-coupled frontally with upper horizontal side 10' of counter-frame 10. Note in figure 9 the presence of a pair of vertical bars 46 set in insulating profiles 12', e.g. in the same material as counter-frame 10, which serve as supports for the shutter hinges.

[0050] Moreover, note how horizontal element 12a of surround 12 partially covers window frame 30 while vertical elements 12' of surround 12, which are joint-coupled with uprights 10" of the counter-frame 10, completely cover frame 30.

[0051] Figure 10 is a vertical section view of a counter-frame structure for a window with an adjustable slats blind device 48. Apart from the different blind element the structure of the counter-frame block-insulating surround is substantially the same as that of figures 3 and 4.

[0052] Figure 11 illustrates a counter-frame structure analogous to the previous one but for a French window. The lower part of the structure features a lower bar 20' of the surround 12, set in the floor and in any case fixed to counter-frame 10.

[0053] In the corresponding view in horizontal section of figure 12, note how also in this case guide 49 for the adjustable slats is obtained in the centre of side profiles 12' of surround 12, well spaced from counter-frame 10. Also note in this case the presence of insulating perimeter elements 6a and 7a of the wall connection which is fixed, e.g. by gluing, to counter-frame 10 and vertical uprights 12' of surround 12. Said vertical uprights 12' of surround 12 completely cover window frame 30 and are joint-coupled to vertical uprights 10" of counter-frame 10.

[0054] Figure 13 is a vertical section view of counter-frame structure for a sliding French window without blind. Note lower bar 20' set in the floor and fixed to lower horizontal side 10' of counter-frame 10. In the upper part insulating surround 12 includes the wall connection elements and a frontal crosspiece that partially covers the sliding frame, joint-coupled to upper horizontal slide 10' of counter-frame 10.

[0055] Figure 13a, again referring to a counter-frame structure for sliding doors, differs from the previous one inasmuch as we have housing 18 for a blind element. Note how housing 18 is obtained from the bringing together of frontal profile 12a, which in this case extends below to a greater extent, completely protecting the window frame, with an upper horizontal profile 12' and thus creating the necessary thickness to obtain housing 18.

[0056] The horizontal section of figure 14 shows two side insulation profiles 12' which also integrate guide 49 for the blind element and further vertical insulation pro-

files 12b that fill the empty space between frame and sliding door.

[0057] Figures 15 and 16 concern a further example of application of the invention. More precisely a counter-frame structure for a window with fixed glazing 50, which can be shaded with adjustable slats element 48, of which it can be noted the housing 18, provided in the upper part of insulating surround 12, and sliding guides 49 integrated in vertical insulation profiles. Most favourably, the glazing 50 is directly fixed to counter-frame 10, completely enclosed by insulating surround 12. Also at the level of the vertical uprights of the structure, surround 12 extends both forward and rearward with regard to counter-frame 10.

[0058] So from the exterior and the interior only glazing 50 is visible.

Claims

1. Use of a counter-frame structure for door/window frames for insertion into an opening in an external wall (5) of a building, the counter-frame structure comprising:

- a counter-frame (10) for a door/window frame;
- an insulating surround (12) in a heat insulation material, which encloses the counter-frame (10) at least on the sides facing said wall (5) and the exterior of the building,

characterised in that said counter-frame (10) and insulating surround (12) are interconnected in such a way as to form a single block (1; 2) to be inserted in the opening in the wall (5), at least a housing (18) for a box (40) of a blind (42, 48) being made frontally, towards the exterior of the building, in an upper part (12') of the insulating surround (12), wherein the wall (5) consists in part of masonry (6) and an external protective skin (7) and in which said insulating surround (12) is of such a thickness as to extend between the internal side (5') and the external side (5'') of the wall (5) in which the structure is inserted, such that the insulating surround (12) extends frontally to the level of the skin (7) in such a way as to create a continuous insulation between the heat insulation material of the insulating surround (12) and that of the skin (7).

2. Use according to 1, in which the internal and external surfaces of the insulating surround are covered by a coat of rendering (14) or pre-rendering that extends to conceal the counter-frame.
3. Use according to claim 2, in which the internal (5') and external (5'') surfaces of the insulating surround (12) are covered by a scrim or template (16) on which

the coat of rendering (14) or pre-rendering is applied or may be applied.

4. Use according to any of the previous claims, in which the insulating surround (12) incorporates a housing (18) for a roller blind (42) or an adjustable slats blind (48). 5
5. Use according to any of the previous claims, in which the insulating surround (12) incorporates or is suitable for incorporating at least some functional elements of the frame, such as guides (44; 49) for sliding parts, and waterproofing/dust-proofing sealing elements. 10
6. Use according to claim 5, in which the guides for sliding parts are incorporated in the insulating surround (12) at a distance from the elements (10', 10") of the counter-frame (10) in such a way as to leave an interposed space for a layer (12") of heat insulation material. 15 20
7. Use according to any of the previous claims, in which the insulating surround (12) includes a base element (20) on which at least one plate is set in such a way as to create at least one between the internal sill (23) and the external sill (22) of the frame. 25
8. Use according to any of the previous claims, in which the said insulating surround (12) includes parts of upright (10") and parts of upper/lower horizontal sides (10') covered by a respective profile (34) in metal or plastic material suitable for being left visible. 30
9. Use according to any of the previous claims, in which the insulating surround (12) is suitable for at least partially overlapping the frame (30) part facing the exterior. 35
10. Use according to claim 9, in which the insulating surround (12) is also suitable for overlapping the door frame (32) in such a way that from the exterior only the glazing (50) of the frame is visible. 40
11. Use according to any of the previous claims, in which the insulating surround (12) is connected to the external side (5") of the wall (5) by way of inclined surfaces (36) in such a way as to maximise the entry of light through the frame. 45 50
12. Use according to any of the previous claims, in which said surround (12) comprises a plurality of closely coupled elements (12', 12a, 12b), at least some of which said elements are fixed to the counter-frame (10). 55
13. Use according to claim 12, in which said elements (12', 12a, 12b) of the insulating surround (12) are

interconnected with a geometrical or joint coupling.

14. Use according to claim 13, in which said elements (12', 12a, 12b) of the surround (12) are fixed to the counter-frame (10) with a joint coupling and/or by gluing and/or by screws and/or by clamps or profiled sheet metal.
15. Use according to any of the previous claims, in which the frame is a French window, and wherein the insulating surround (12) includes a lower bar (20') suitable for insertion into a housing in the floor.
16. Use according to any of the previous claims, in which the insulating surround (12) includes a frontal portion (7a) of the same thickness and in the same material as the protective skin (7) of the wall (5), and a rear portion (6a) corresponding to the thickness of the part of the wall (5) in masonry.
17. Use according to any of the previous claims, including a door/window frame (30) fixed to the counter-frame (10).
18. Use according to claim 17, including a complete frame (30, 32) fixed to the counter-frame (10).
19. Method of production and installation of a door/window frame (30) in an opening of an external wall (5) of a building, wherein the wall (5) consists in part of masonry (6) and an external protective skin (7), comprising the steps of:
 - realizing a counter-frame (10);
 - realizing a surround (12) in a heat insulation material;
 - realizing at least a housing (18) for a box (40) of a blind (42, 48) frontally, towards the exterior of the building, in an upper part (12') of the surround (12);
 - enveloping the counter-frame (10) with said surround (12) in such a way that it covers at least the sides of the counter-frame (10) facing the wall in which it is to be set and towards the exterior (5") of the building;
 - fixing the surround (12) to the counter-frame (10) in such a way as to form a single block (12),
 - inserting said block (12) in the aperture of the wall (5) or roof,
 wherein said insulating surround (12) is of such a thickness as to extend between the internal side (5') and the external side (5") of the wall (5) in which the structure is inserted, such that the insulating surround (12) extends frontally to the level of the skin (7) in such a way as to create a continuous insulation between the heat insulation material of the insulating surround (12) and that of the skin (7).

20. Method according to claim 19, in which, before insertion in the opening, the block (1,2) is cement rendered or pre-rendered.
21. Method according to claim 20 in which, after the block (12) is rendered and before insertion in the wall (5) or roof, the frame (10) is mounted on said block (12).
22. Method according to any of claims 19-21, in which, before insertion in the opening, a blind element (42, 48) and its accessories are mounted.

Patentansprüche

1. Verwendung einer Rahmen-Gegenstruktur für Tür-/Fensterrahmen zum Einsetzen in eine Öffnung in einer Außenwand (5) eines Gebäudes, wobei die Rahmen-Gegenstruktur Folgendes aufweist:

- einen Gegenrahmen (10) für einen Tür-/Fensterrahmen;
- eine isolierende Randeinfassung (12) in einem Wärmeisulationsmaterial, welches den Gegenrahmen (10) mindestens auf den der Wand (5) und dem Gebäude-Äußeren zugewandten Seiten umschließt,

dadurch gekennzeichnet, dass der Gegenrahmen (10) und die isolierende Randeinfassung (12) so miteinander verbunden sind, dass sie einen einzigen in die Öffnung in der Wand (5) einzusetzenden Block (1; 2) bilden, mindestens ein Gehäuse (18) für einen Kasten (40) einer Jalousie (42, 48), das frontal in Richtung des Gebäude-Äußeren in einem oberen Teil (12') der isolierenden Randeinfassung (12) ausgearbeitet ist, wobei die Wand (5) zum Teil aus Mauerwerk (6) und einer äußeren Schutzhaut (7) besteht, und in der die isolierende Randeinfassung (12) eine solche Dicke aufweist, so dass sie sich zwischen der inneren Seite (5') und der äußeren Seite (5'') der Wand (5) erstreckt, in die die Struktur eingesetzt ist, derart, dass sich die isolierende Randeinfassung (12) frontal bis hin zur Haut (7) so erstreckt, dass eine kontinuierliche Isolierung zwischen dem Wärmeisulationsmaterial und der isolierenden Randeinfassung (12) und derjenigen der Haut (7) erzeugt wird.

2. Verwendung nach Anspruch 1, wobei die innere und die äußere Oberfläche der isolierenden Randeinfassung mit einer Schicht von Putz (14) oder Vorputz bedeckt sind, der sich zum Verkleiden des Gegenrahmens erstreckt.
3. Verwendung nach Anspruch 2, wobei die innere (5') und die äußere (5'') Oberfläche der isolierenden

Randeinfassung (12) durch einen Gitterstoff oder ein Templat (16) bedeckt sind, auf das die Putzschicht (14) oder der Vorputz aufgebracht ist oder aufgebracht werden kann.

4. Verwendung nach einem der vorangehenden Ansprüche, wobei die isolierende Randeinfassung (12) ein Gehäuse (18) für einen Rolladen (42) oder verstellbare Lamellenjalousien (48) umfasst.

5. Verwendung nach einem der vorangehenden Ansprüche, wobei die isolierende Randeinfassung (12) aufnimmt oder geeignet ist zum Aufnehmen von mindestens einigen Funktionselementen des Rahmens, wie Führungen (44; 49) für gleitende Teile und für wasserdichte/staubdichte Dichtteile.

6. Verwendung nach Anspruch 5, wobei die Führungen für die Gleitelemente in der isolierenden Randeinfassung (12) in einem Abstand von den Elementen (10', 10'') des Gegenrahmens (10) so eingearbeitet sind, dass ein Zwischenraum für eine Schicht (12') von wärmeisolierendem Material gelassen wird.

7. Verwendung nach einem der vorangehenden Ansprüche, wobei die isolierende Randeinfassung (12) ein Basiselement (20) aufweist, auf das mindestens eine Platte so aufgesetzt ist, dass sie die innere Fensterbank (23) und/oder die äußere Fensterbank (42) des Rahmens erzeugt.

8. Verwendung nach einem der vorangehenden Ansprüche, wobei die isolierende Randeinfassung (12) Teile von aufrechten (10'') und Teile von oberen/unteren horizontalen Seiten (10') aufweist, die jeweils von einem Profil (34) aus Metall oder Kunststoffmaterial bedeckt sind, das dazu ausgelegt ist, sichtbar zu bleiben.

9. Verwendung nach einem der vorangehenden Ansprüche, wobei die isolierende Randeinfassung (12) zum mindestens teilweisen Überlappen des nach außen weisenden Rahmen (30)-Teils ausgelegt ist.

10. Verwendung nach Anspruch 9, wobei die isolierende Randeinfassung (12) auch zum Überlappen des Türrahmens (32) auf eine solche Weise geeignet ist, dass von außen nur die Verglasung (50) des Rahmens sichtbar ist.

11. Verwendung nach einem der vorangehenden Ansprüche, wobei die isolierende Randeinfassung (12) mit der äußeren Seite (5'') der Wand (5) über schräge Flächen (36) so verbunden ist, dass der Eintritt von Licht durch den Rahmen maximiert wird.

12. Verwendung nach einem der vorangehenden Ansprüche, wobei die isolierende Randeinfassung (12)

eine Vielzahl von eng gekoppelten Elementen (12', 12a, 12b) umfasst, wovon mindestens einige der Elemente an dem Gegenrahmen (10) befestigt sind.

13. Verwendung nach Anspruch 12, wobei die Elemente (12', 12a, 12b) der isolierenden Randeinfassung miteinander mit einer geometrischen oder Gelenkkopplung verbunden sind. 5
14. Verwendung nach Anspruch 13, wobei die Elemente (12', 12a, 12b) der isolierenden Randeinfassung (12) an dem Gegenrahmen (10) mit einer Gelenkkopplung und/oder durch Kleben und/oder durch Schrauben und/oder durch Klemmen oder profiliertes Metallblech befestigt sind. 10
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15. Verwendung nach einem der vorangehenden Ansprüche, wobei der Rahmen ein Bodenfenster ist, und wobei die isolierende Randeinfassung (12) eine untere Schiene (20') aufweist, die zum Einsetzen in ein Gehäuse im Boden geeignet ist. 20
16. Verwendung nach einem der vorangehenden Ansprüche, wobei die isolierende Randeinfassung (12) einen vorderen Teil (7a) der gleichen Dicke und aus dem gleichen Material wie die Schutzhaut (7) der Wand (5) und einen hinteren Teil (6a) entsprechend der Dicke des Teils der Wand (5) im Mauerwerk aufweist. 25
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17. Verwendung nach einem der vorangehenden Ansprüche, aufweisend einen Tür-/Fensterrahmen (30), der an dem Gegenrahmen (10) befestigt ist.
18. Verwendung nach Anspruch 17, aufweisend einen kompletten Rahmen (30, 32), der an dem Gegenrahmen (10) befestigt ist. 35
19. Verfahren zur Herstellung und zum Einsetzen eines Tür-/Fensterrahmens (30) in eine Öffnung einer Außenwand (5) eines Gebäudes, wobei die Wand (5) zum Teil aus Mauerwerk (6) und einer äußeren Schutzhaut (7) besteht, umfassend die folgenden Schritte: 40
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 - Ausbilden eines Gegenrahmens (10)L
 - Ausbilden einer isolierenden Randeinfassung (12) in einem Wärmeisolationmaterial;
 - Ausbilden mindestens eines Gehäuses (18) für einen Kasten (40) einer Jalousie (42, 48) frontal, in Richtung des Äußeren des Gebäudes in einem oberen Teil (12') der isolierenden Randeinfassung (12); 50
 - Einfassen des Gegenrahmens (10) mit der Randeinfassung (12) so, dass sie mindestens die Seiten des Gegenrahmens (12), die der Wand zugewandt sind, in die er einzusetzen ist, und dem Äußeren (5') des Gebäudes zuge- 55

wandt, bedeckt;

- Befestigen der Randeinfassung (12) an dem Gegenrahmen (10) so, dass ein einziger Block (12) gebildet wird,
- Einsetzen des Blocks (12) in die Öffnung der Wand (5) oder des Dachs,
- wobei die isolierende Randeinfassung von einer solchen Dicke ist, dass sie sich zwischen der inneren Seite (5') und der äußeren Seite (5'') der Wand (5) erstreckt, in die die Struktur eingebaut wird, derart, dass die isolierende Randeinfassung sich frontal bis zu der Haut (7) so erstreckt, dass eine kontinuierliche Isolierung zwischen dem wärmeisolierenden Material und der isolierenden Randeinfassung (12) und derjenigen der Haut (7) erzeugt wird.

20. Verfahren nach Anspruch 19, wobei vor dem Einbau in die Öffnung der Block (1, 2) mit Zement verputzt oder vorverputzt wird.
21. Verfahren nach Anspruch 20, wobei, nachdem der Block (12) verputzt ist, und bevor vor dem Einsetzen in die Wand (5) oder das Dach, der Rahmen (10) an dem Block (12) befestigt wird.
22. Verfahren nach einem der Ansprüche 19 bis 21, wobei vor dem Einbau in die Öffnung ein Jalousieelement (42, 48) und sein Zubehör montiert werden.

Revendications

1. Utilisation d'une structure de contre-châssis pour encadrement de porte/de fenêtre pour insertion dans une ouverture dans un mur extérieur (5) d'un bâtiment, la structure de contre-châssis comprenant :
 - un contre-châssis (10) pour un encadrement de porte/de fenêtre ;
 - une enveloppe isolante (12) dans un matériau d'isolation thermique qui enferme le contre-châssis (10) au moins sur les côtés qui font face au mur (5) et l'extérieur du bâtiment,**caractérisée en ce que** ledit contre-châssis (10) et l'enveloppe isolante (12) sont reliés entre eux de manière à former un seul bloc (1 ; 2) à insérer dans l'ouverture dans le mur (5), au moins un boîtier (18) pour une boîte (40) d'un store (42, 48) étant fait frontalement, vers l'extérieur du bâtiment, dans une partie supérieure (12') de l'enveloppe isolante (12), le mur (5) consistant en partie en maçonnerie (6) et en une peau protectrice extérieure (7) et dans laquelle ladite enveloppe isolante (12) est d'une épaisseur telle qu'elle s'étend entre le côté intérieur (5') et le côté extérieur (5'') du mur (5) dans lequel la structure est insérée de telle ma-

- nière que l'enveloppe isolante (12) s'étend frontalement par rapport au niveau de la peau (7) de manière à créer une isolation continue entre le matériau d'isolation thermique de l'enveloppe isolante (12) et celui de la peau (7).
2. Utilisation selon la revendication 1 dans laquelle la surface intérieure et la surface extérieure de l'enveloppe isolante sont couvertes par un revêtement d'enduit (14) ou d'apprêt qui s'étend pour masquer le contre-châssis.
 3. Utilisation selon la revendication 2 dans laquelle la surface intérieure (5) et la surface extérieure (5") de l'enveloppe isolante (12) sont couvertes par un canevas ou un gabarit (16) sur lequel le revêtement d'enduit (14) ou d'apprêt est appliqué ou peut être appliqué.
 4. Utilisation selon l'une quelconque des revendications précédentes dans laquelle l'enveloppe isolante (12) incorpore un boîtier (18) pour un volet roulant (42) ou un store à lamelles ajustables (48).
 5. Utilisation selon l'une quelconque des revendications précédentes dans laquelle l'enveloppe isolante (12) incorpore ou est appropriée pour incorporer au moins quelques éléments fonctionnels de l'encadrement tels que des guides (44 ; 49) pour des parties coulissantes et des éléments d'imperméabilisation/de protection anti-poussière.
 6. Utilisation selon la revendication 5 dans laquelle les guides pour des parties coulissantes sont incorporés dans l'enveloppe isolante (12) à une distance des éléments (10', 10") du contre-châssis (10) de manière à laisser un espace interposé pour une couche (12") de matériau d'isolation thermique.
 7. Utilisation selon l'une quelconque des revendications précédentes dans laquelle l'enveloppe isolante (12) comprend un élément de base (20) sur lequel au moins une plaque est posée de manière à créer le seuil intérieur (23) et/ou le seuil extérieur (22) de l'encadrement.
 8. Utilisation selon l'une quelconque des revendications précédentes dans laquelle ladite enveloppe isolante (12) comprend des parties de côtés verticaux (10") et des parties de côtés horizontaux supérieurs/inférieurs (10') couvertes par un profil respectif (34) en matériau métallique ou plastique approprié pour être laissé visible.
 9. Utilisation selon l'une quelconque des revendications précédentes dans laquelle l'enveloppe isolante (12) est appropriée pour chevaucher au moins partiellement la partie d'encadrement (30) faisant face à l'extérieur.
 10. Utilisation selon la revendication 9 dans laquelle l'enveloppe isolante (12) est également appropriée pour chevaucher l'encadrement de porte (32) de telle manière que de l'extérieur seul le vitrage (50) de l'encadrement soit visible.
 11. Utilisation selon la revendication 9 dans laquelle l'enveloppe isolante (12) est reliée au côté extérieur (5") du mur (5) au moyen de surfaces inclinées (36) de manière à maximiser l'entrée de lumière à travers l'encadrement.
 12. Utilisation selon l'une quelconque des revendications précédentes dans laquelle ladite enveloppe isolante (12) comprend une pluralité d'éléments étroitement couplés (12', 12a, 12b) dont au moins quelques-uns sont fixés au contre-châssis (10).
 13. Utilisation selon la revendication 12 dans laquelle lesdits éléments (12', 12a, 12b) de l'enveloppe isolante (12) sont reliés entre eux avec un accouplement géométrique ou articulé.
 14. Utilisation selon la revendication 13 dans laquelle lesdits éléments (12', 12a, 12b) de l'enveloppe isolante (12) sont reliés au contre-châssis (10) avec un accouplement articulé et/ou par collage et/ou par des vis et/ou par des serrages ou par de la tôle profilée.
 15. Utilisation selon l'une quelconque des revendications précédentes dans laquelle l'encadrement est une fenêtre à la française et l'enveloppe isolante (12) comprenant une barre inférieure (20') appropriée pour l'insertion dans un boîtier dans le sol.
 16. Utilisation selon l'une quelconque des revendications précédentes dans laquelle ladite enveloppe isolante (12) comprend une portion frontale (7a) de la même épaisseur et dans le même matériau que la peau protectrice (7) du mur (5) et une portion postérieure (6a) correspondant à l'épaisseur de la partie du mur (5) en maçonnerie.
 17. Utilisation selon l'une quelconque des revendications précédentes comprenant un encadrement de porte/de fenêtre (30) fixé au contre-châssis (10).
 18. Utilisation selon la revendication 17 comprenant un encadrement complet (30, 32) fixé au contre-châssis (10).
 19. Procédé de production et d'installation d'un encadrement de porte/de fenêtre (30) dans une ouverture dans un mur extérieur (5) d'un bâtiment, le mur (5) consistant en partie en maçonnerie (6) et en une peau protectrice extérieure (7) comprenant les éta-

pes de :

- réalisation d'un contre-châssis (10) ;
 - réalisation d'une enveloppe (12) dans un matériau d'isolation thermique ; 5
 - réalisation d'au moins un boîtier (18) pour une boîte (40) d'un store (42, 48) frontalement vers l'extérieur du bâtiment dans une partie supérieure (12') de l'enveloppe (12) ;
 - enveloppe du contre-châssis (10) avec ladite enveloppe (12) de manière à ce qu'elle couvre au moins les côtés du contre-châssis (10) faisant face au mur dans lequel il doit être mis et vers l'extérieur (5") du bâtiment ; 10
 - fixation de l'enveloppe (12) au contre-châssis (10) de manière à former un seul bloc (12), 15
 - insertion dudit bloc (12) dans l'ouverture du mur (5) ou du toit,
 - ladite enveloppe isolante (12) étant d'une épaisseur telle qu'elle s'étend entre le côté intérieur (5') et le côté extérieur (5") du mur (5) dans lequel la structure est insérée de telle manière que l'enveloppe isolante (12) s'étend frontalement par rapport au niveau de la peau (7) de manière à créer une isolation continue entre le matériau d'isolation thermique de l'enveloppe isolante (12) et celui de la peau (7). 20 25
- 20.** Procédé selon la revendication 19 dans lequel, avant insertion dans l'ouverture, le bloc (1, 2) est enduit ou apprêté de ciment. 30
- 21.** Procédé selon la revendication 20 dans lequel, après que le bloc (12) soit enduit et avant insertion dans le mur (5) ou le toit, l'encadrement (10) est monté sur ledit bloc (12). 35
- 22.** Procédé selon l'une quelconque des revendications 19 à 21, dans laquelle, avant l'insertion dans l'ouverture, un élément de volet (42, 48) et ses accessoires sont montés. 40

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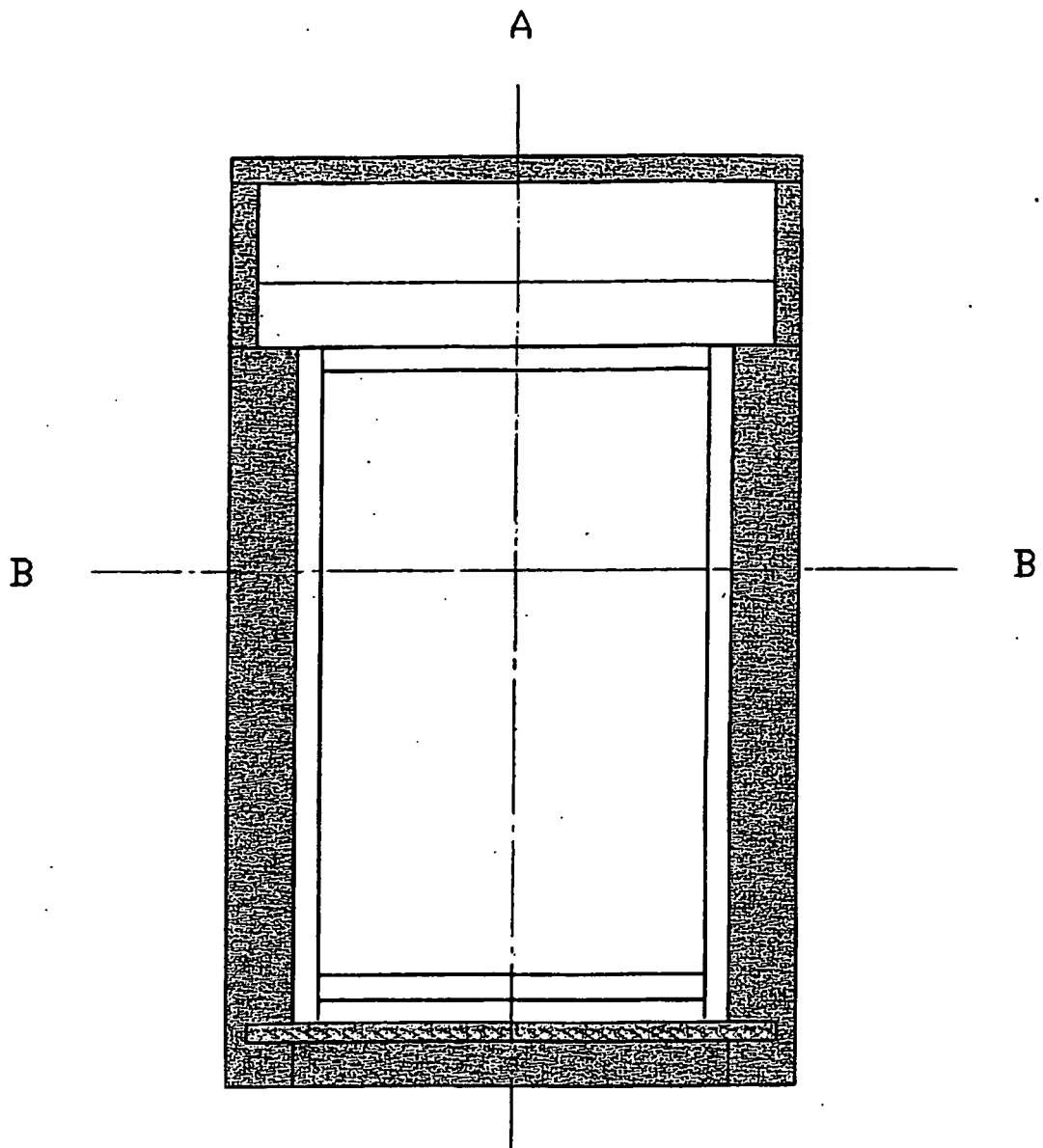


Fig. 1

A

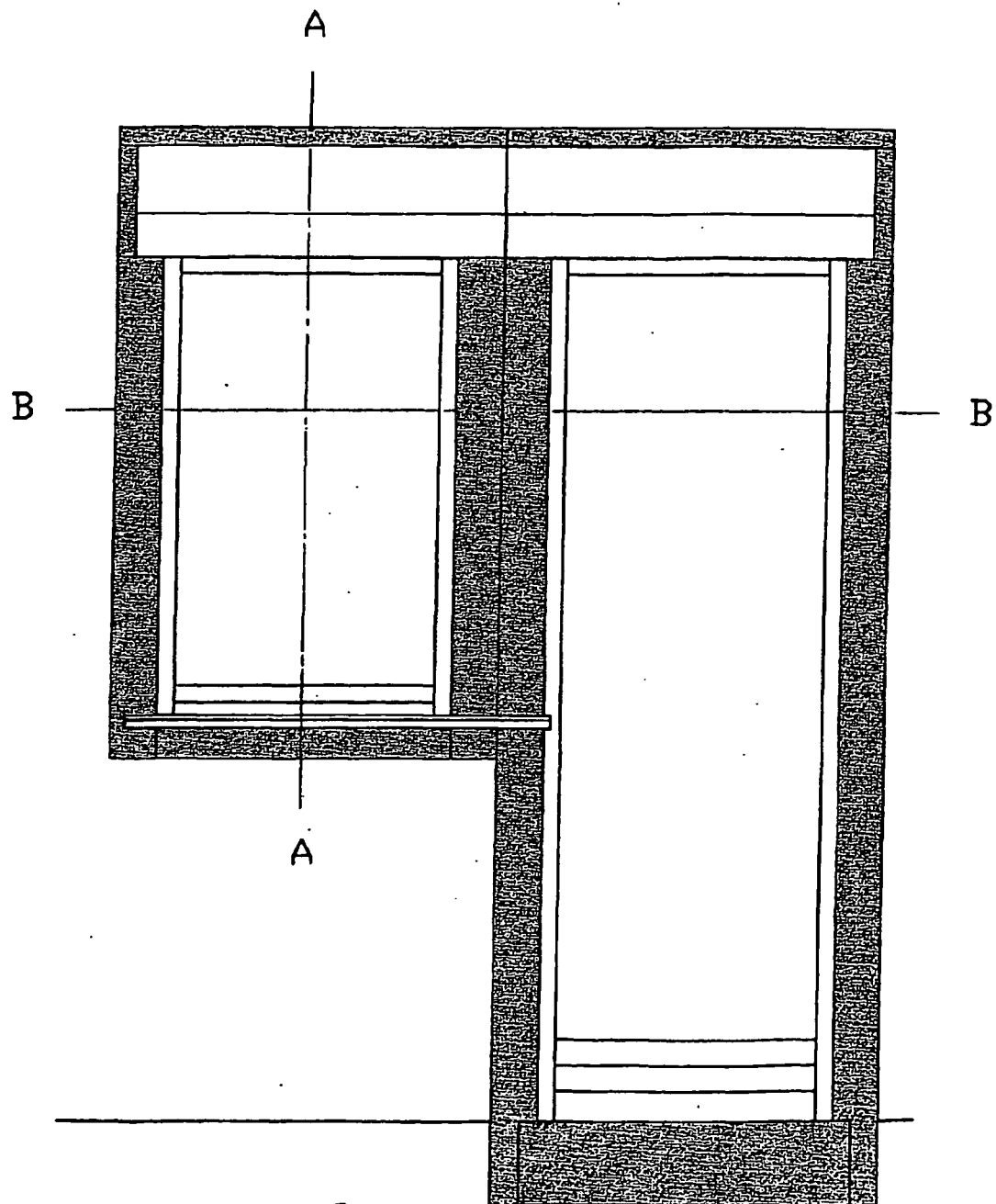


Fig. 2

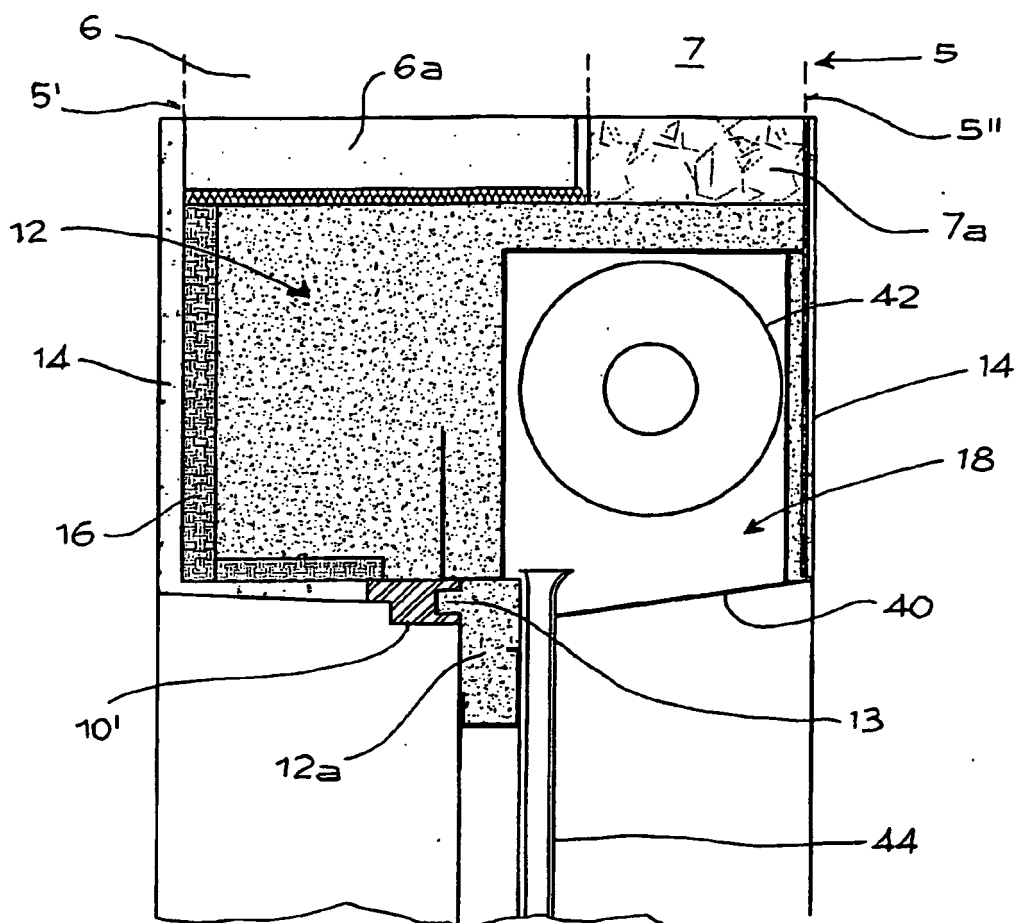
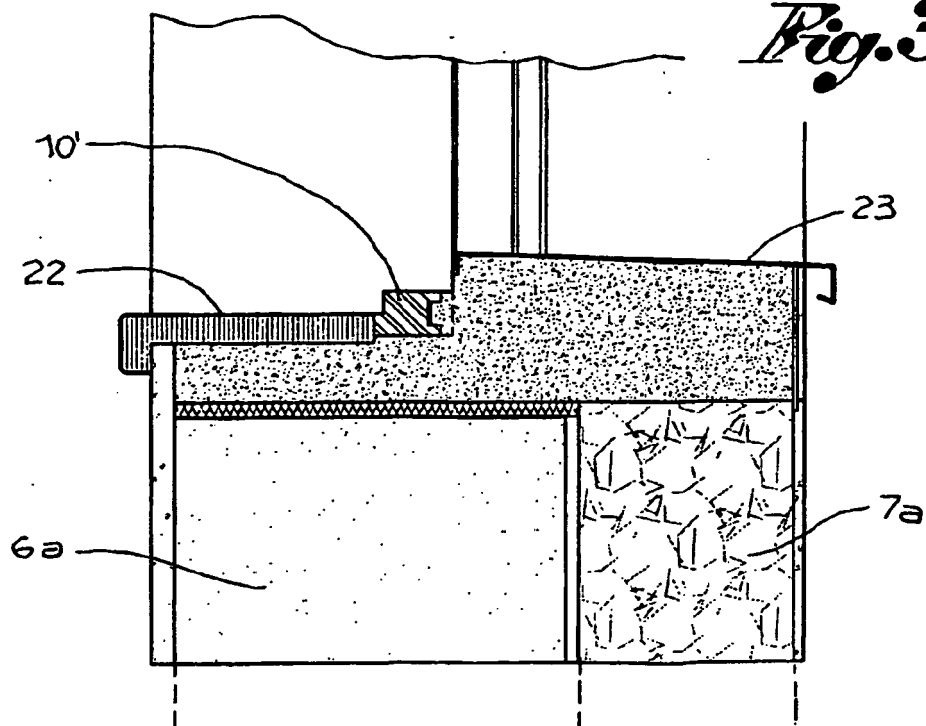


Fig. 3



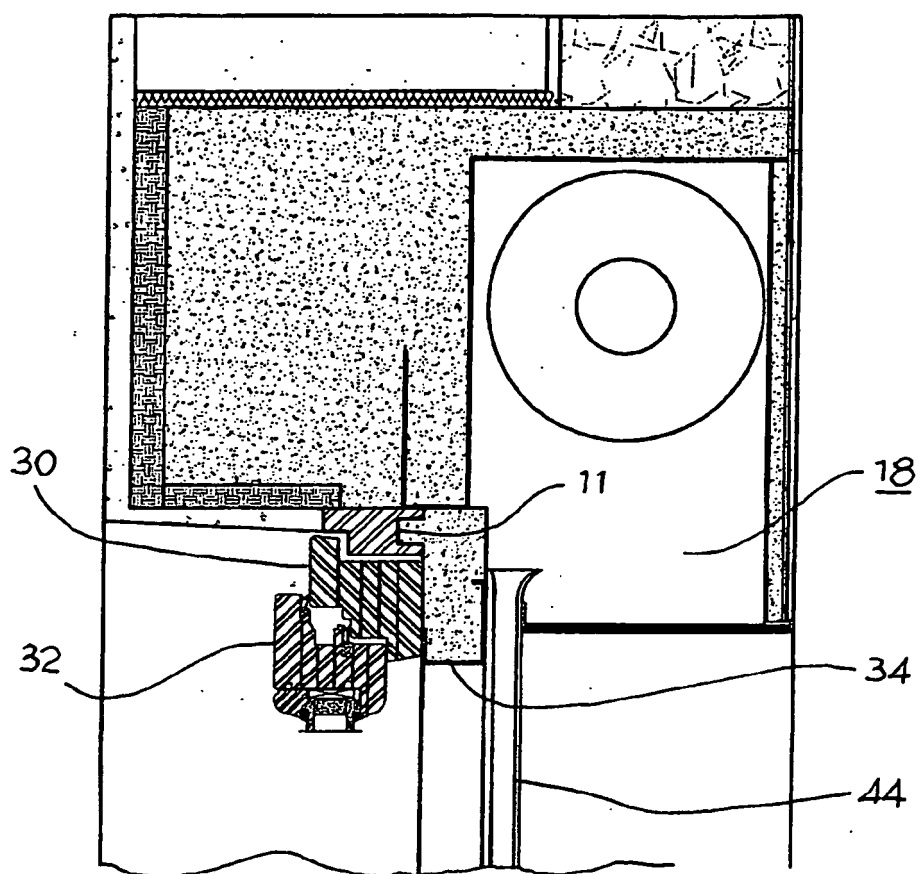
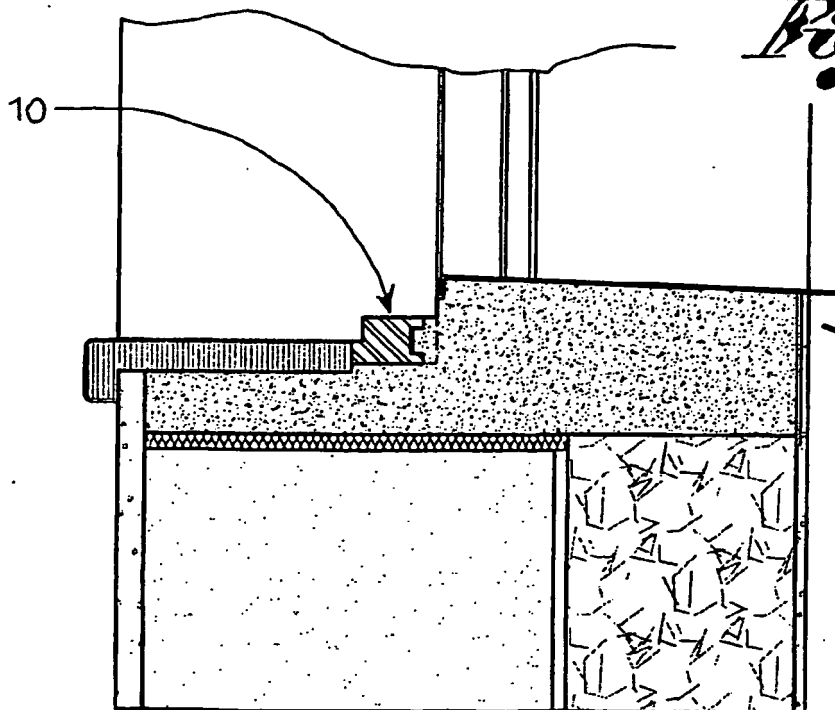


Fig. 4



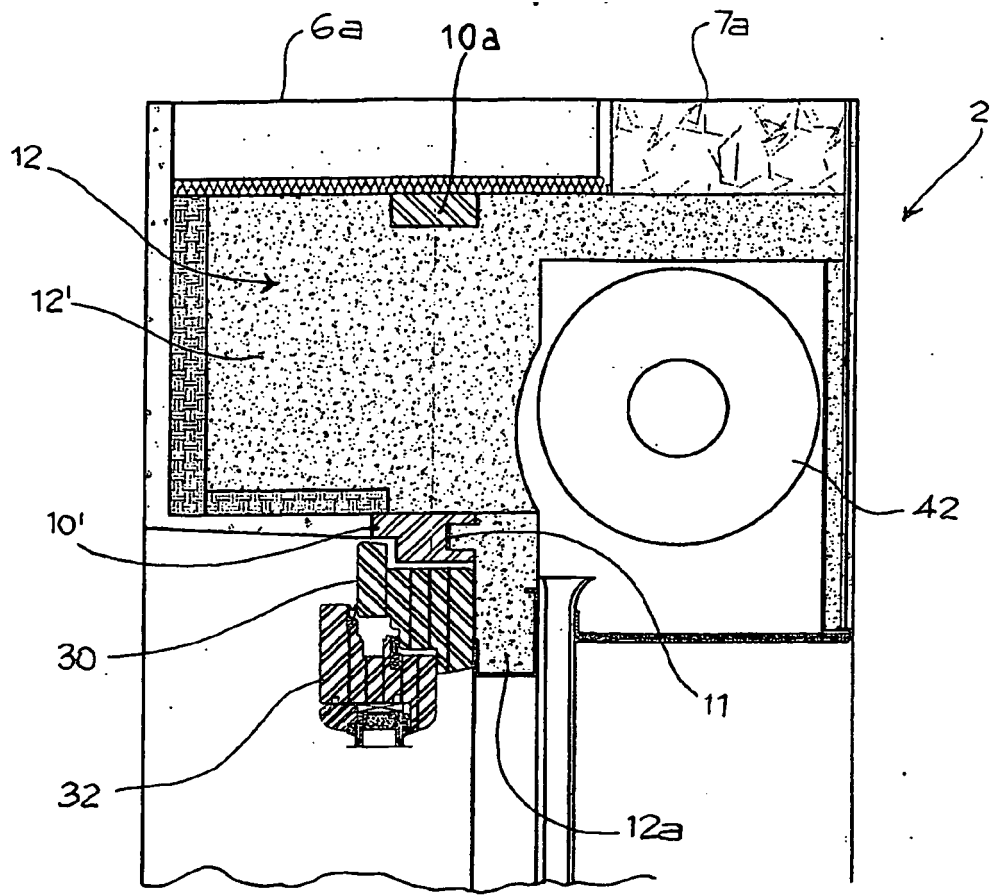
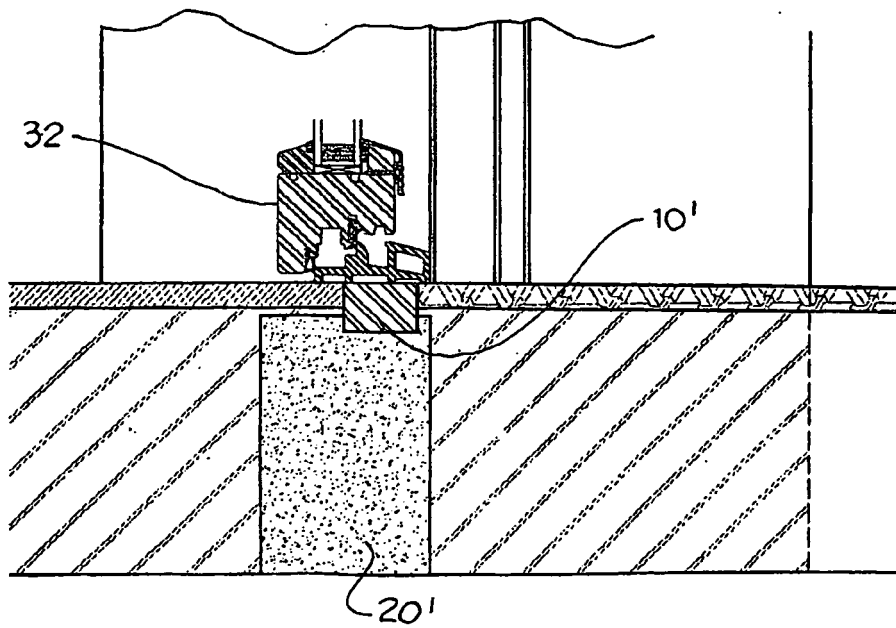
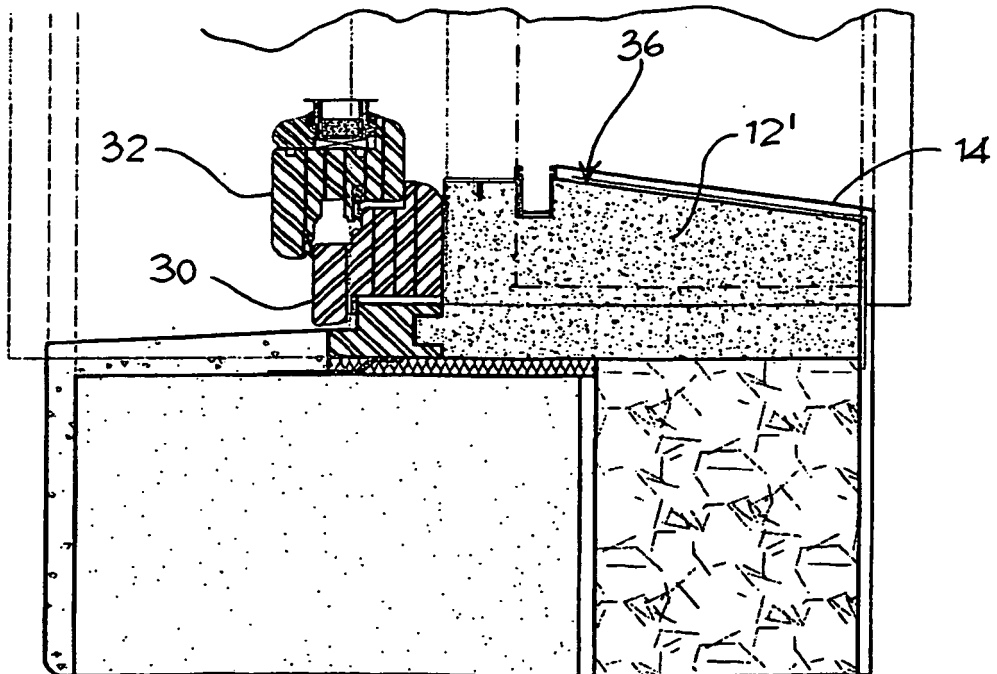
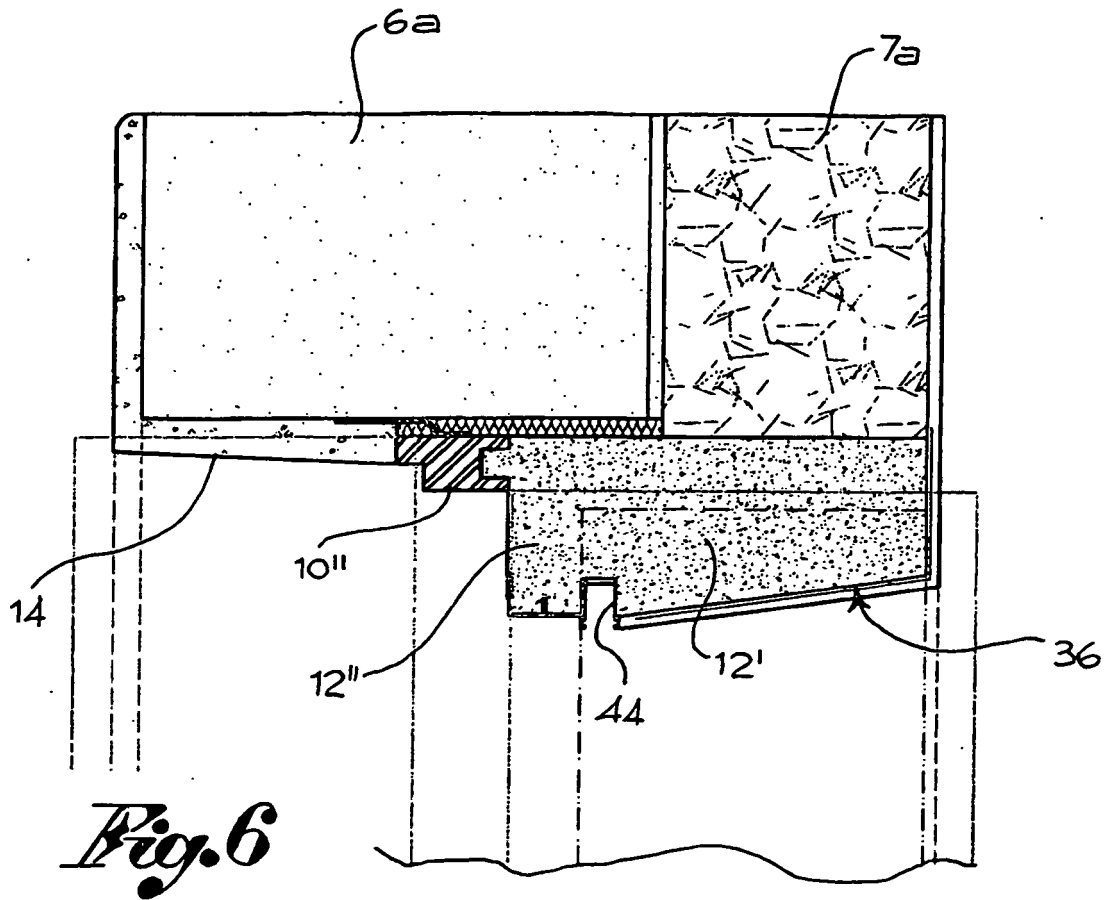
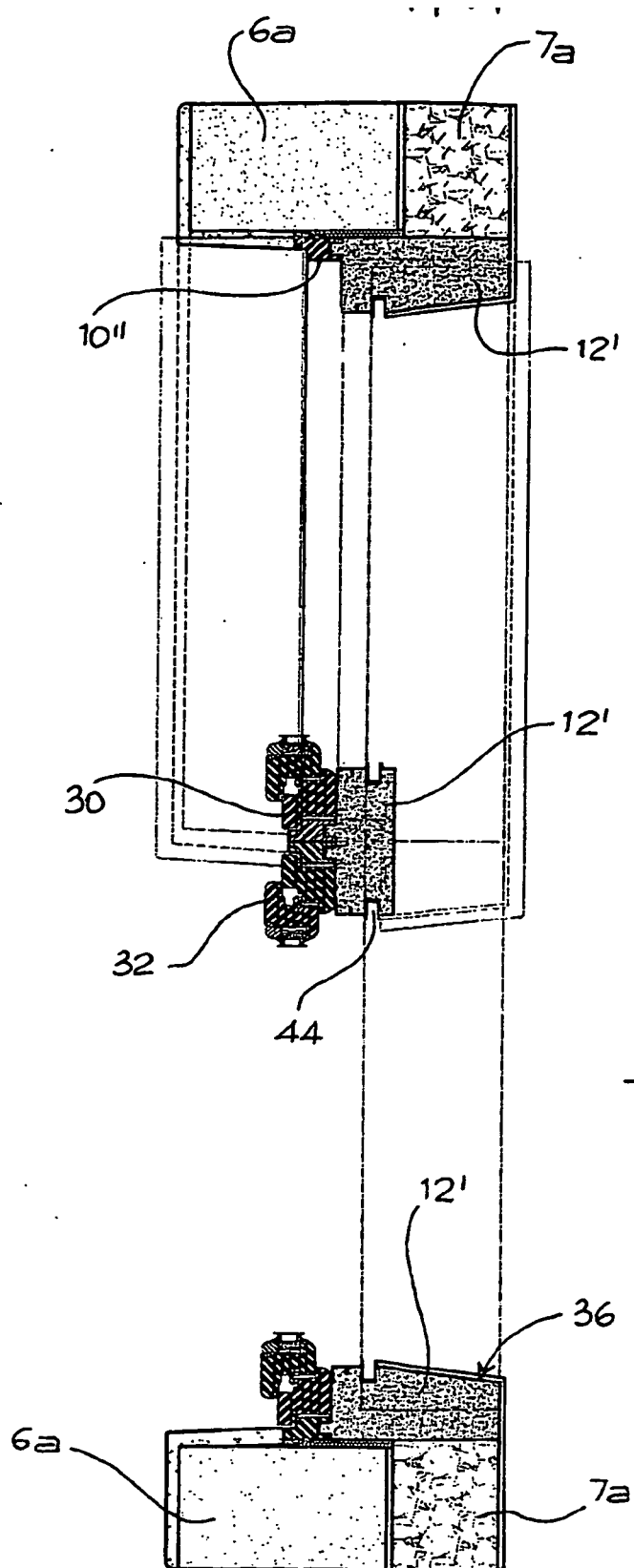


Fig. 5







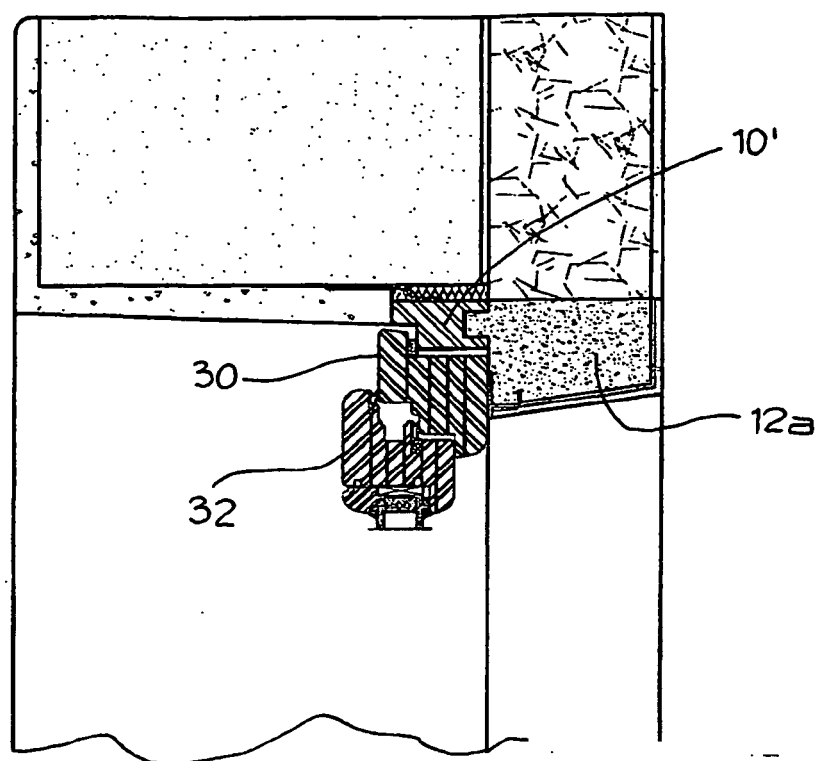
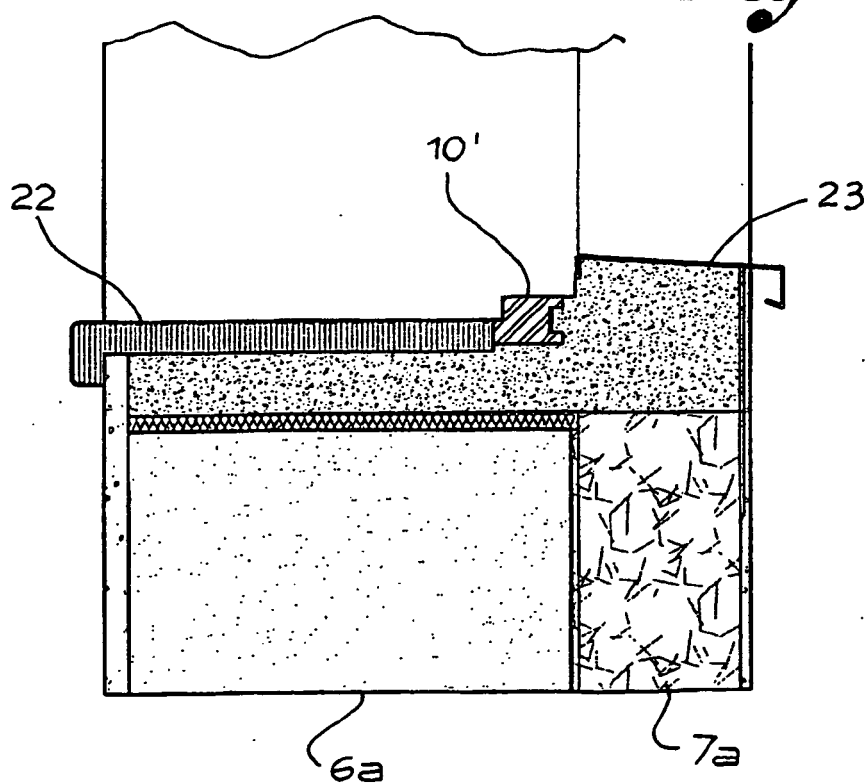
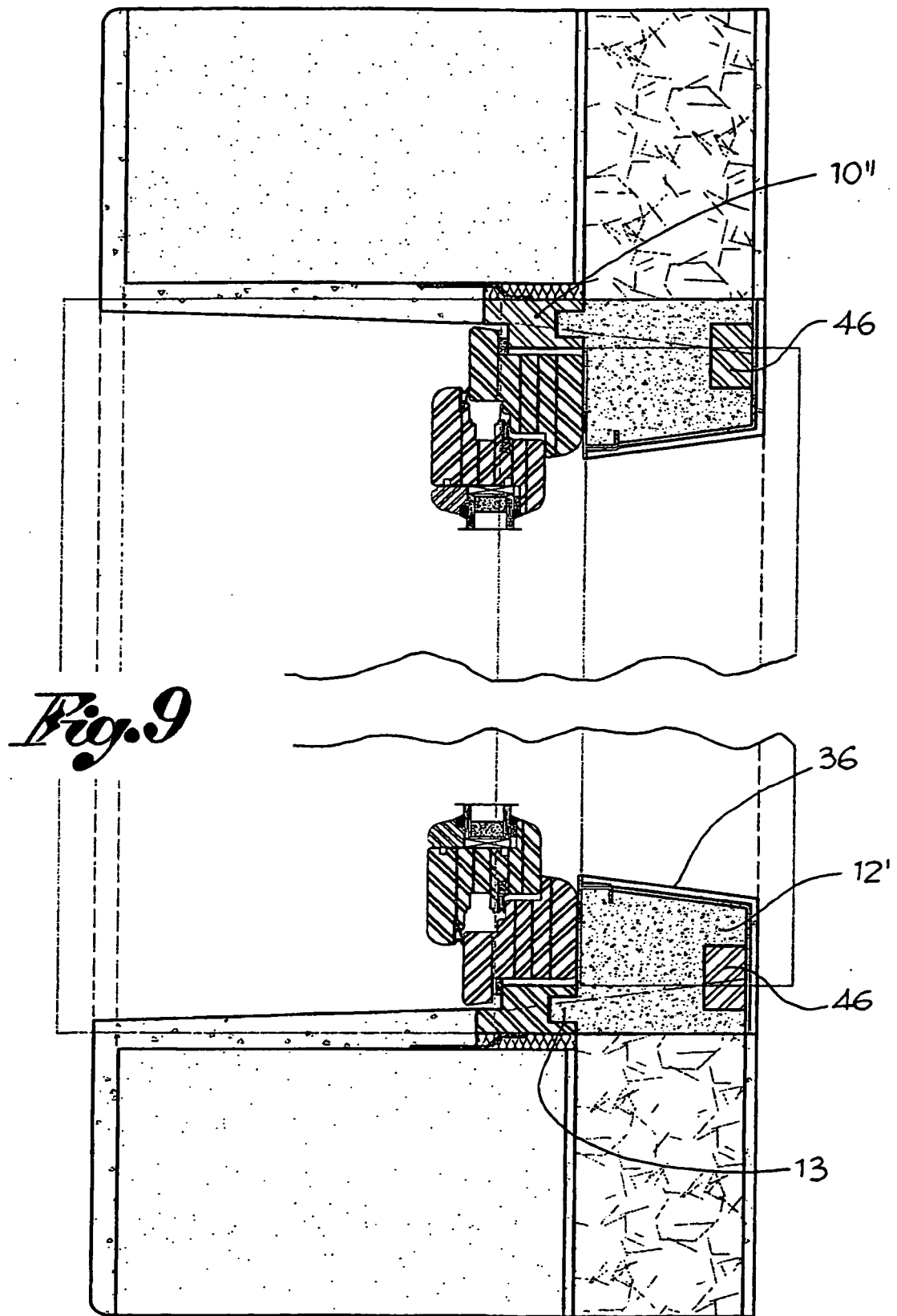


Fig. 8





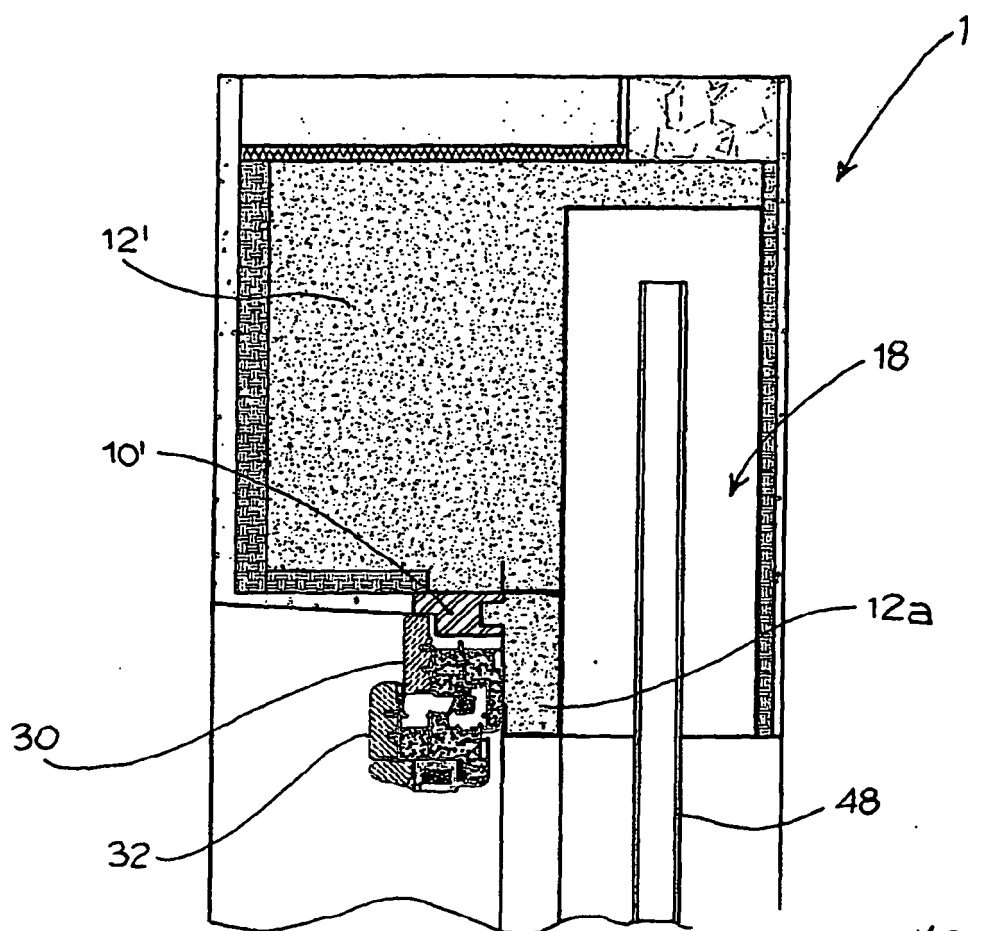
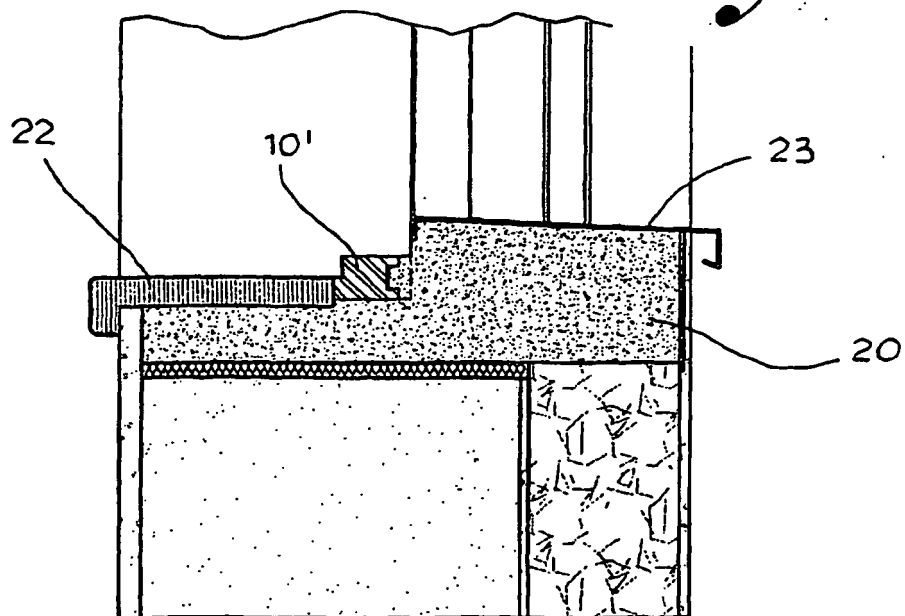
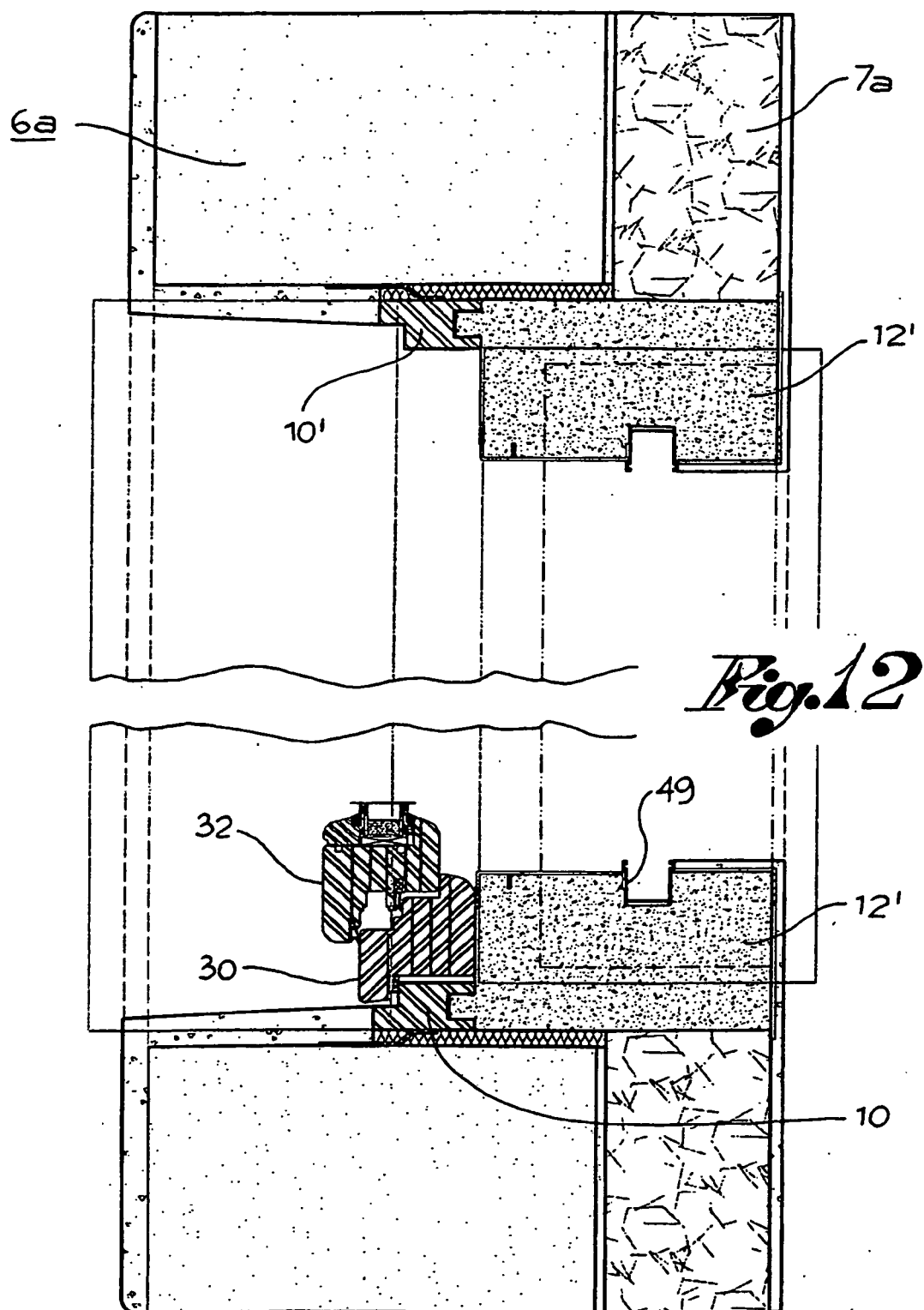
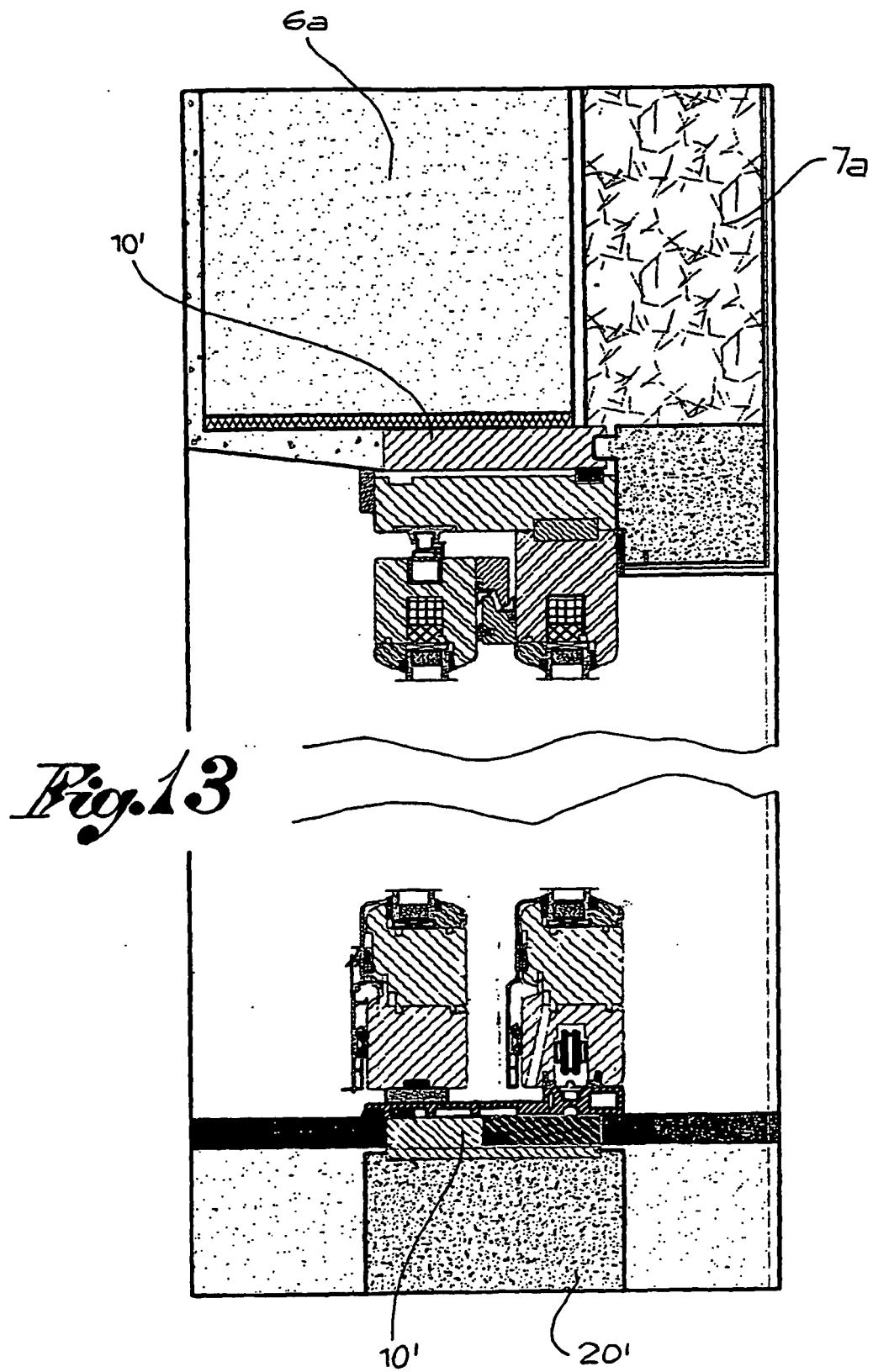


Fig. 10







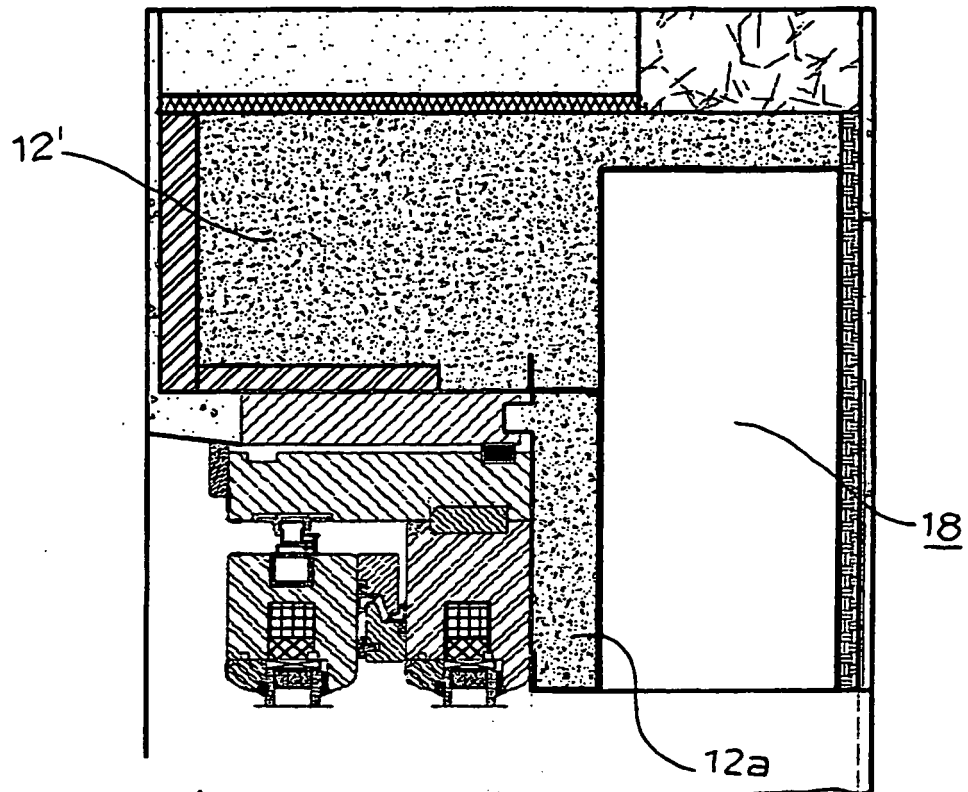
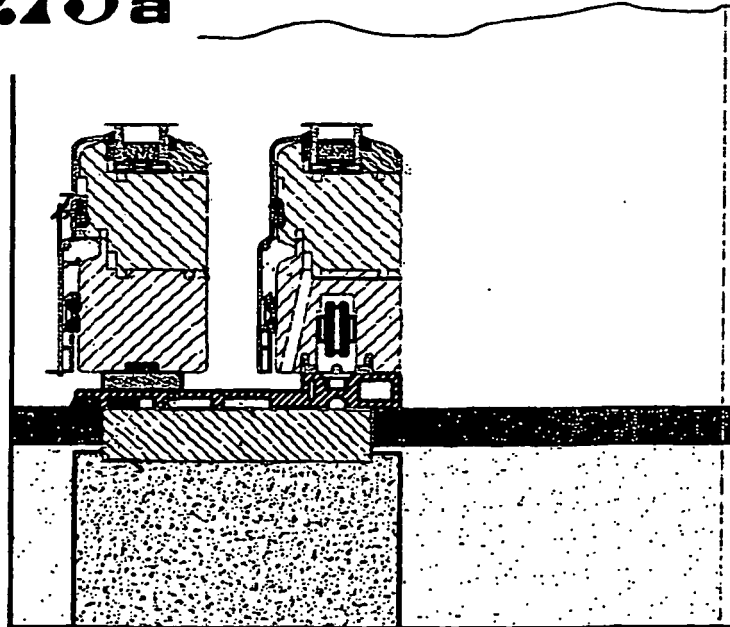


Fig. 13a



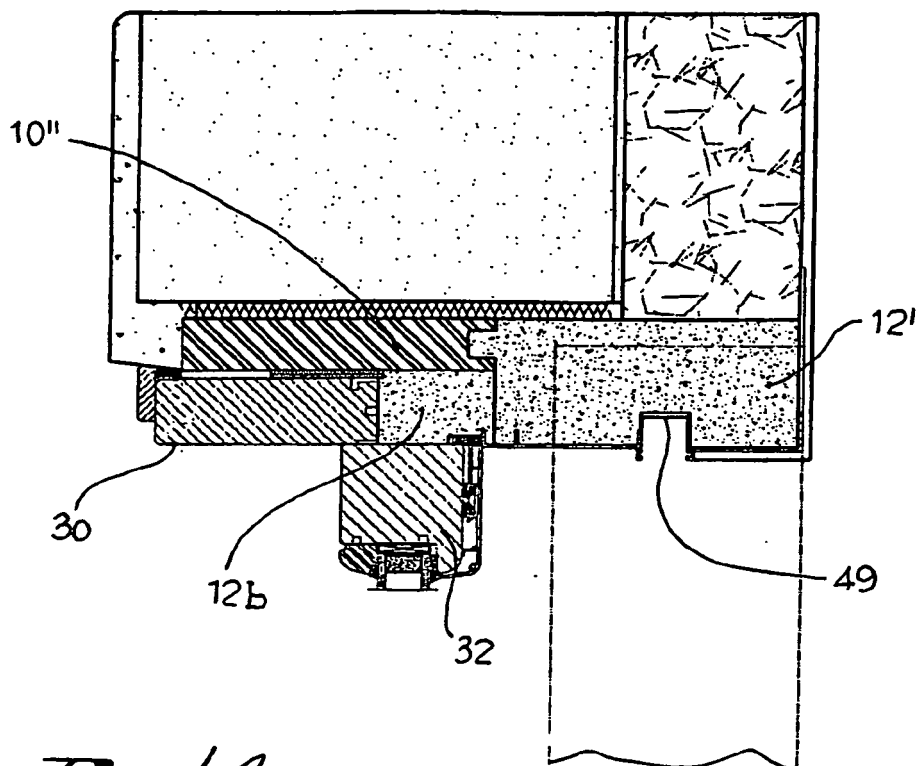
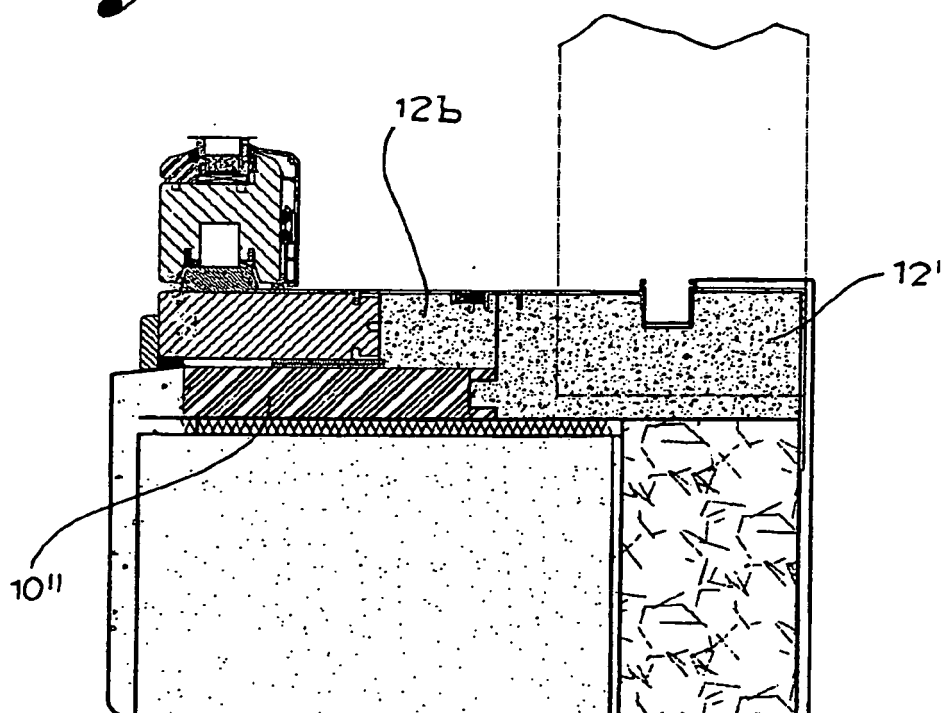
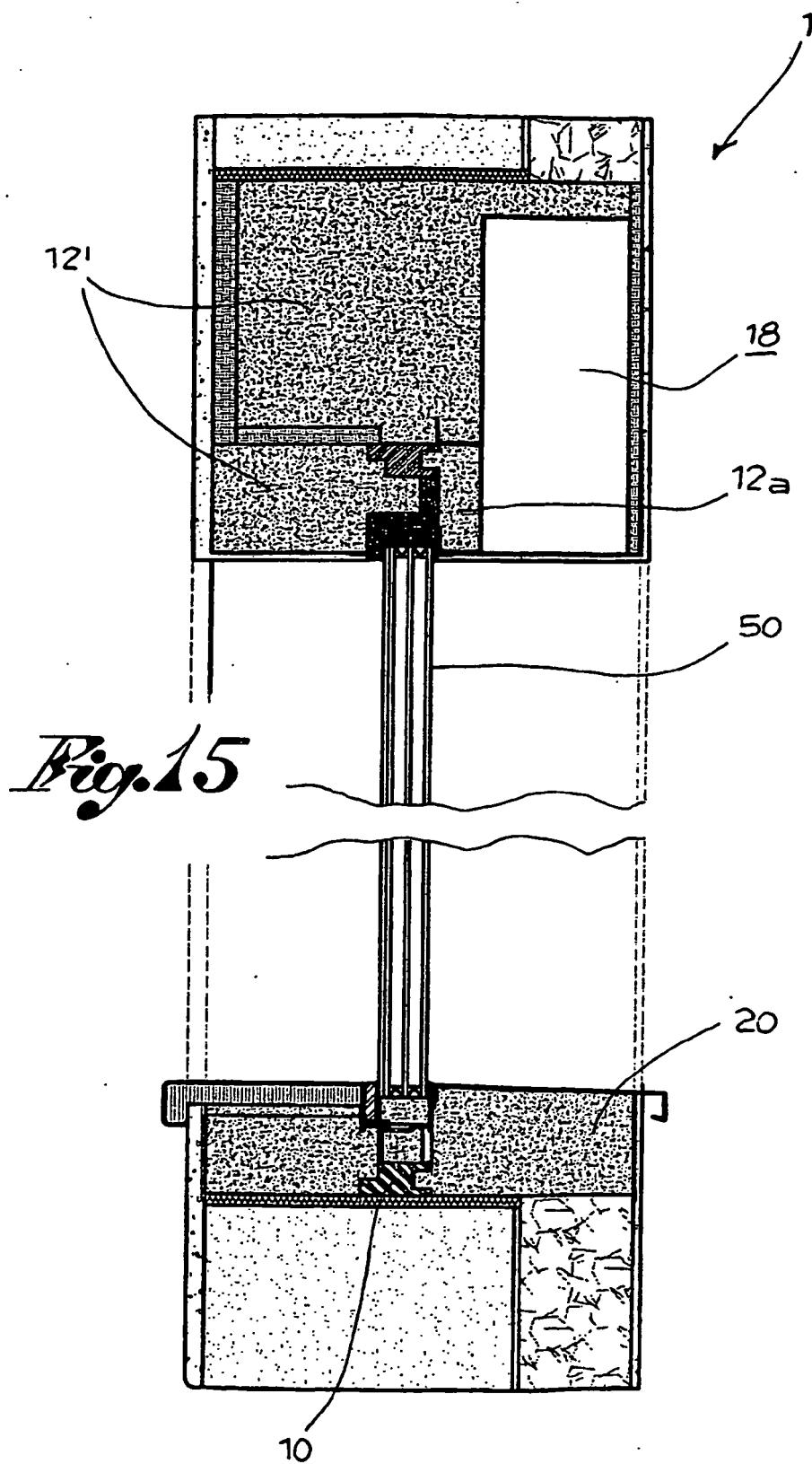
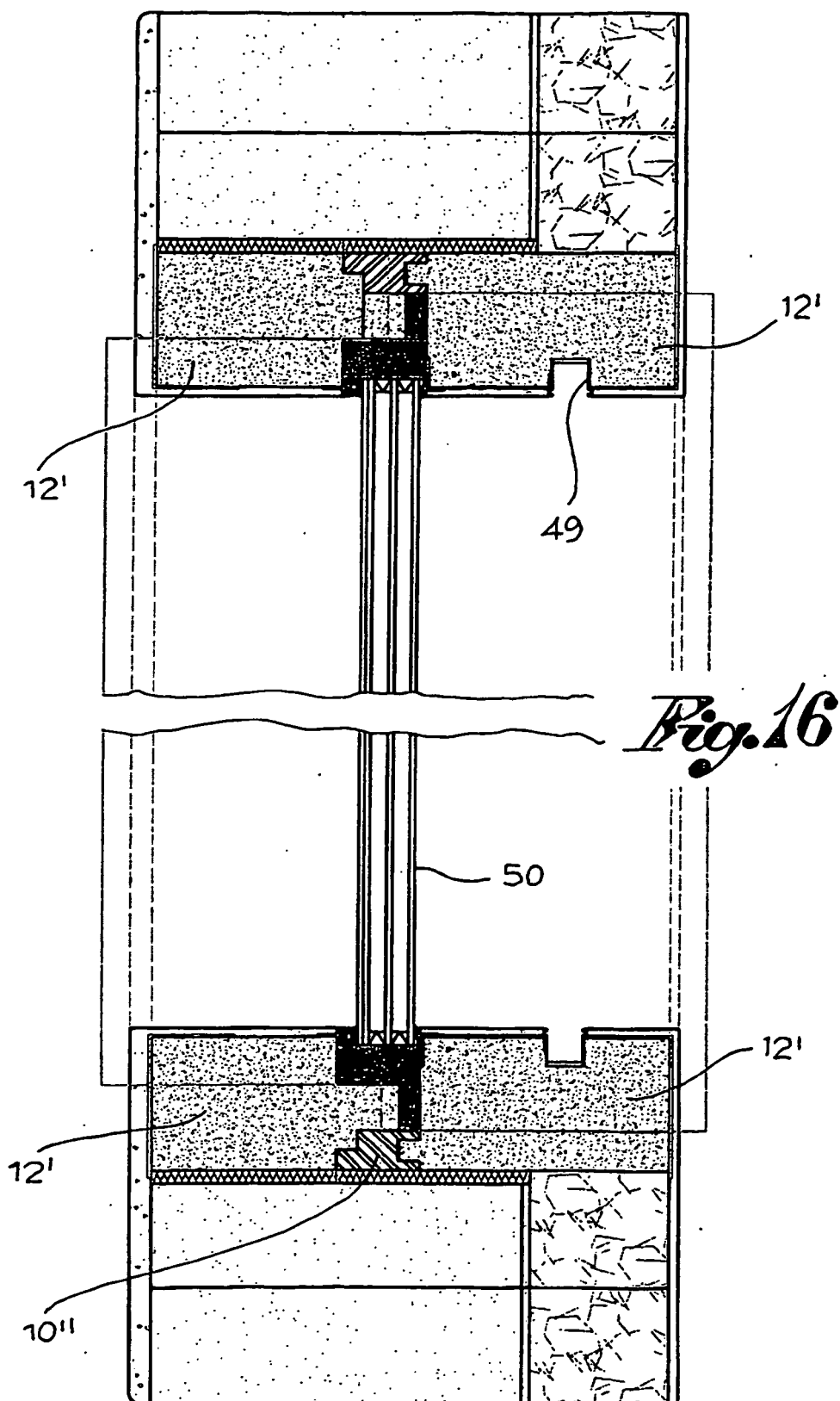


Fig. 14







REFERENCES CITED IN THE DESCRIPTION

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