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(54) **A counterframe for sliding doors having partition panels supported by a frame comprising purpose-profiled support elements**

Abdeckrahmen zum Aufnehmen von Schiebetüren mit einem Trennplatten tragenden, aus zweckprofilierten Rahmenelementen zusammengesetzten Stützrahmen

Un encadrement à escamoter des portes coulissantes, pourvu d'une structure de support des panneaux cloisons constituée des éléments profilés adaptés

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(73) Proprietor: **ECLISSE SRL**
31020 Sernaglia Della Battaglia (TV) (IT)

(72) Inventor: **De Faveri, Luigi**
I-31020 Sernaglia della Battaglia (TV) (IT)

(74) Representative: **D'Agostini, Giovanni, Dr.**
D'AGOSTINI ORGANIZZAZIONE
Via G. Giusti 17
33100 Udine (IT)

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Description

[0001] This invention has as object an improved counterframe for sliding doors, of the type for the support of double-walled construction plasterboard panels.

[0002] The innovation finds special even if not exclusive, application in the sector of casings for window and door frames (double-walled construction).

[0003] In prior art, casings to allow the installation of respective double-walled construction counterframes wherein between the walls a sliding door is to be applied, are known for example from WO-A-9013725; US-A-4561210; EP-A-0594545; EP-A-0505614, these all being different constructions for different scopes and solutions. In particular WO90/13725 discloses a wall a framework with covering panels mutually spaced and covering the framework at both sides thereof. Between the panels a free space for receiving therein a sliding door, in the opened position, is provided, said space terminating in a vertical slot for the movement of the sliding door, said slot being located at one side of the door opening to be closed by means of the sliding door. The panels are received at the edge thereof extending along the slot, in metal sheet box-sections provided as stiles of the door opening on the outside of the panels, said sections forming a supporting girder for the covering panels as well as framing and lining of the door opening.

[0004] Also the counterframe solution for sliding doors, particularly for plasterboard walls (EP-A-0505614), provides:

- a containing largecase; defined respectively by symmetric and parallel panellings held in position by a series of spacing cross-members one above and parallel to the other, engaged on one side to vertical profiles associated in head contraposition to said large case, on the other to staves which provide the containing seats of the vertical edge of the respective panel;
- a base crosspiece and an outer-casing profile, which support means of the largecase, being that the lower extremities of said largecase engage to the outer-casing profile;
- an eventual upper guide-support crosspiece, sustained on one side by a stanchion which door jamb on the other side being engaged to the largecase, and subdivided into two parts associable one with the other by engaging means, each part being provided with raised seats for the engagement of corresponding slides as protruding reference means obtained by a guide track;
- as well as at least one stanchion which door jamb, on one side bearing the extremity of a connection upper crosspiece to the largecase, on the other eventually anchored to the base crosspiece.

[0005] Further prior improvement of the latter solution has allowed to achieve a modular counterframe for slid-

ing doors, particularly for plasterboard walls, in which:

- the vertical profiles have a variable pitch, associated in head contraposition to said large containing case being provided with reciprocal hooking longitudinal means the one insertable within the other, defining the width of the desired largecase;
- while the staves that provide the containing seats of the vertical edge of the respective panel, are obtained with a variation of thickness,
- and finally, providing the vertical support spacing cross-members of the plasterboard panels, which are obtained with at least one roughened and/or knurled surface.

[0006] One feature common to the aforementioned solutions is given by the structure of the vertical profile, closing of the side of the largecase opposite the door jamb. In all the prior solutions cited above, it is obtained by the integral association or not of at least two elements, more generally "L" shaped, initially stapled longitudinally, then according to the last teachings engaged one within the other. The problems of this structure would consist consequently in the fact that they would not be adaptable for counterframes which internal wheelbase is at least of 50 mm. The reduced size, with the eventuality of a rapid assembly offered as a finished product to be introduced on the market, has required a different profile particularly suitable for such type of counterframe.

[0007] Yet another prior improvement on the preceding counterframes has concerned vertical profiles in the counterframes for sliding doors, of the types for the support of plasterboard panels (double-walled construction with sliding door inside), comprising:

- a containing structure; defined respectively by symmetric and parallel panellings eventually held in position by a series of spacing cross-members one above and parallel to the other, engaged on one side to vertical profiles associated in head contraposition to a largecase (fixed frame in which the counterframe has to be applied), on the other to staves, of the types obtained with a thickness variation, which provide the containing seats of the vertical edge of the respective panel;
- a base crosspiece and an outer-casing profile, which support means of the largecase, being that the lower extremities of said largecase engage to the outer-casing profile;
- an eventual upper guide-support crosspiece, sustained on the side by a pier which jamb opposite to the staves, on the other side being supported by staves and from the vertical profile of the largecase, subdivided into two parts associable one with the other by engaging means, each part being provided with raised seats for the engaging of corresponding slides as protruding reference means obtained by

a guide track; in which the vertical profile is monolithic, obtained with two opposite "C" shaped sections, where the common side has a rib made longitudinally which allows the support of a guide-support crosspiece, and in which the lathes provide on the corresponding end a perpendicular fin to the side of the same, protruding internally to the large-case that holds up from the opposite side always the same guide-support crosspiece.

[0008] The same applicant realises a similar structure as disclosed in IT-U-TV93U000052, upon which the preamble of claim 1 has been based.

[0009] The aim of the present invention is to supply a better solution with respect to the prior art, allowing in an easier way the use of a counterframe for plasterboard walls. This and other aims are reached with the present innovation according to the characteristics as in included claim 1 solving the arising problems by means of: a counterframe of the double-walled construction type, for receiving in use within its double-walling a sliding door comprising:

- at least one door-receiving structure having two parallel walls oppositely spaced so as to form a double-wall and each comprising a plasterboard wall panel, preferably held in position by a plurality of cross-members spaced one above and parallel to each other;
each wall panel being attached :
 - at a first vertical edge thereof to a single monolithic vertical profile, located at that end of the door-receiving structure opposed to the opening for receiving in use a sliding door therethrough; and
 - at an opposed second vertical edge thereof to a batten stave constituting an internal vertical profile located proximate the opening for receiving in use a sliding door therethrough, each of said monolithic vertical profile and of said batten stave having seats receiving the vertical edge of the respective wall panel,

said at least one door receiving structure further having:

- an upper guide-support crosspiece,
- a base crosspiece and
- an outer-casing profile, proximate said base crosspiece and including support means for connecting the two walls panels of the door-receiving structure, and
- a raised seal supporting a door guide track for engagement in use by a corresponding slide of a sliding door;
- said upper guide-support crosspiece being such that in use two of said door-receiving structures, one located on each side of a doorway with their

respective door-receiving openings facing one other, may be so interconnected as to form a double counterframe for receiving in use double sliding doors,

characterized in that:

- said monolithic vertical profile has a closed box-section, each lateral face of said closed box-section being continued substantially in prolongation thereof by one of two opposed parallel wall-fins, extending internally of the door-receiving structure, and having roughened or knurled external side surfaces contacting the edge of a respective wall panel, whereby in said closed box-section at least one wall transverse to said lateral faces is "omega"-shaped in section, such as to have a longitudinal central recess, and whereby longitudinal "C"-ribbed seats protrude out from said closed box-section inside the door-receiving structure and carry clamped therein screw clamping means connecting in abutment variously to the upper guide support crosspiece and to the base crosspiece; and
- each of said batten stave, is shaped as a box-section of substantially "L"-shape and further includes a wall-fin extending from an end wall of one branch of the "L" shaped box-section inwardly of the door receiving opening and proximate thereto, thereby forming a longitudinal seat between the inner face of said wall-fin and the second remote branch of the "L"-shaped box-section, so as variously to receive therein the edge of a respective wall panel, and to retain therein the "omega" cross-sectionally shaped head of a respective upper or base crosspiece serving to connect opposed batten staves; each batten stave further having protruding pins extending from the "L"-shaped box-section in a direction opposite to that of said wall-fin so as to anchor a longitudinal covering profile.

[0010] This leads to various advantages being achieved. First of all the fact that the structure of the 50 mm counterframe for plasterboard walls is strengthened in considerable value. Secondly lower execution times are obtained above all deriving from a certain easiness and precision of assembly, not excluding a further reduction of the production costs.

[0011] These and other advantages appear from the following description of preferential solutions of realization with the help of the enclosed drawings the details of which are not to be considered limitative.

Figures 1. and 1A. represent sectional views of a vertical profile and of a relative variation, for counterframe for plasterboard walls.

Figures 2. and 2A. represent a cross sectional view of a stave and of a corresponding variation for counterframe for plasterboard walls.

Figure 3., represents a view still in cross section of one of the two elements for profiles of the variable pitch type.

Figures 4. and 5., represent respectively a side and sectional view of a counterframe.

Finally, figures 6. and 7., represent a side and sectional view of a variation to the counterframe, of the continuous panel type.

[0012] Also making reference to the figures, it is disclosed that a counterframe (D) for sliding doors, of the type for the support of plasterboard panellings (C), provides a first vertical profile (A) of closure of a side of the largecase defining the depth, and of at least one couple of vertical profiles i.e. staves (B), from the opposite side that delimit the entry of the casing. More in particular, the vertical profile (A) is monolithic, being obtained in extruded aluminium, and which, seen in any cross section (Fig. 1), recalls a box shape, or peripherically closed. In more detail, the profile (A) provides two parallel sides (1), with the roughened or knurled surface, respectively right and left, along which the panel corresponding plasterboard (C) coating rests directly in contact. Said sides protract on one side, towards the inside of the counterframe, and beyond the box shape, obtaining two perpendicular symmetric and protrusive walls (1'). In a first hypothesis, said walls (1') are slightly more reentrant if compared to the sides (1) of the profile (A) providing a lower wheelbase, in a second (Fig. 2) being vice versa coplanar if compared to said sides (1).

[0013] On the opposite side, realizing the head of the largecase, the sides (1) are attached by a third side (2) at right angles to the same, which viewed in section essentially recalls an omega. The characteristic of such side, is essentially given by the fact that it provides a longitudinal rib, in an intermediate position, also having the purpose to confer greater structural rigidity to the counterframe ensemble (A). A fourth side (3), always at right angles to the sides (1) joining them to the opposite extremities, also provides a longitudinal rib, turned towards the inside of the largecase in practice with a section essentially "U" shaped divergent, as the walls (3') of the same are slightly divaricate. On the side turned towards the inside, a rib therefore appears, in positive, that being protrusive recalls, as the preceding side, a typical omega shape. Further characteristic that distinguishes such profile from the preceding, is given by the fact that it provides along the side (3) turned towards the inside of the largecase, circular seats (4), obtained longitudinally, which allow the fixing the upper guide-support crosspiece and/or of the outer-casing lower cross-piece.

[0014] From the opposite part of the counterframe (D), each panel (C) is held along the edge by a corresponding vertical stave (B). The section of each stave (B) is such to include a side (5) which, being constituted by a perfectly flat vertical surface extends in depth towards the inside of the largecase defining the width of

the opening. An alternative not within the ambit of the claim would be for, the stave (B) to provide laterally towards the exterior, a shape (5') even this tubular recalling an "L" shape. In more detail, adjacent to the side (5) or between the same and the tube (5'), the realization of a longitudinal seat (5'') is provided, which can house the head of a panel (C). In an alternative solution said seat (5'') is able to contain the head of a crosspiece of the omega (8) type, and fixed here by known screw means, while on the opposite end, in correspondence to the vertical profile (A), the use of a small holding-plate essentially rectangular (11) is required. In the opposite way at the side (5), and in an intermediate position, in respect to the tubular element (5'), monolithical pins (6) are extended longitudinally as much as the height of the stave (B), provided with a plurality of hooks (6') on both sides, to simplify the anchorage of a wooden strip (7), which door jamb, previously milled in logic correspondence.

[0015] Finally a third basic improvement, regards the use of the variable pitch vertical profiles. These, for example, can find application in counterframes of the type for the support of continuous plasterboard panels (C). Said profiles, are made up essentially of two elements (9) provided on one side with longitudinal means, male and female, of reciprocal hooking the one insertable within the other, defining the width of the largecase desired. From the opposite side, in this case of the only element (9) provided with male hooking means (9'), seats are obtained (10), semicircular, being open on one side, which ensure the clamping of the screws of head to said bar, particularly for the assurance of the guide-support crosspiece and of the outer-casing profile.

Claims

1. A counterframe of the double-walled construction type, for receiving in use within its double-walling a sliding door comprising:

- at least one door-receiving structure (D) having two parallel walls opposedly spaced so as to form a double-wall and each comprising a plasterboard wall panel (C), preferably held in position by a plurality of cross-members (8) spaced one above and parallel to each other; each wall panel being attached:
 - at a first vertical edge thereof to a single monolithic vertical profile (A), located at that end of the door-receiving structure opposed to the opening for receiving in use a sliding door therethrough; and
 - at an opposed second vertical edge thereof to a batten stave (B) constituting an internal vertical profile located proximate the opening for receiving in use a sliding door there-

through, each of said monolithic vertical profile (A) and of said batten stave (B) having seats receiving the vertical edge of the respective wall panel (C),

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said at least one door receiving structure further having:

- an upper guide-support crosspiece (E),
- a base crosspiece (F) and
- an outer-casing profile (F1), proximate said base crosspiece and including support means for connecting the two walls panels of the door-receiving structure, and
- a raised seal supporting a door guide track for engagement in use by a corresponding slide of a sliding door;
- said upper guide-support crosspiece (E) being such that in use two of said door-receiving structures, one located on each side of a doorway with their respective door-receiving openings facing one other, may be so interconnected as to form a double counterframe for receiving in use double sliding doors,

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characterized in that :

- said monolithic vertical profile (A) has a closed box-section (1,2,3), each lateral face of said closed box-section being continued substantially in prolongation thereof by one of two opposed parallel wall-fins (1'), extending internally of the door-receiving structure, and having roughened or knurled external side surfaces (1') contacting the edge of a respective wall panel (C), whereby in said closed box-section at least one wall transverse to said lateral faces is "omega"-shaped in section, such as to have a longitudinal central recess, and whereby longitudinal "C"-ribbed seats protrude out from said closed box-section inside the door-receiving structure and carry clamped therein screw clamping means connecting in abutment variously to the upper guide support crosspiece (E) and to the base crosspiece (F); and
- each of said batten stave (B), is shaped as a box-section of substantially "L"-shape and further includes a wall-fin (5) extending from an end wall of one branch of the "L" shaped box-section inwardly of the door receiving opening and proximate thereto, thereby forming a longitudinal seat (5'') between the inner face of said wall-fin (5) and the second remote branch of the "L"-shaped box-section (5'), so as variously to receive therein the edge of a respective wall panel (C), and to retain therein the "omega" cross-sectionally shaped head of a respective upper or base crosspiece serving to connect

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opposed batten staves; each batten stave (B) further having protruding pins (6) extending from the "L"-shaped box-section in a direction opposite to that of said wall-fin so as to anchor a longitudinal covering profile.

Patentansprüche

1. Doppelwandiger Rahmen zur Aufnahme, beim Gebrauch, in seiner Doppelwand, einer Gleittür mit:

- mindestens eine türaufnehmende Struktur (D) mit zwei parallelen entgegengesetzt beabstandeten Wänden, um eine Doppelwand zu bilden, wobei jede mit einer Gipskartonplattenwandplatte (C) umfasst, vorzugsweise durch eine Vielzahl von Kreuzelementen (8) in Position gehalten, die übereinander und parallel zueinander beabstandet sind;

wobei jede Wandplatte wie folgt angebracht ist:

- an einer ersten senkrechten Kante davon an einem einzigen monolithischen senkrechten Profil (A), an dem der Öffnung entgegengesetzten Ende der türaufnehmenden Struktur, zur Aufnahme, im Gebrauch, einer Gleittür darin; und
- an einer entgegengesetzten zweiten senkrechten Kante davon an einem Leistenstab (B), der ein inneres senkrechttes Profil nahe der Öffnung zur Aufnahme im Gebrauch einer Gleittür darin darstellt,

sowohl das monolithische senkrechte Profil (A) als auch der Leistenstab (B) besitzen Aufnahmen, die die senkrechte Kante der Wandplatte (C) aufnehmen, besagte mindestens eine türaufnehmende Struktur umfasst des weiteren:

- einen oberen Führungsstützquerträger (E),
- einen Basisquerträger (F) und
- ein Außengehäuseprofil (F1), nah dem Basisquerträger und einschließlich Stützmittel zur Verbindung der beiden Wändeplatten der türaufnehmenden Struktur, und
- eine angehobene Dichtung, die eine Türschiene für den Eingriff, im Gebrauch, eines entsprechenden Gleitstücks einer Gleittür trägt;
- besagter oberer Führungsstützquerträger (E) ist derart, dass im Gebrauch zwei

der türaufnehmenden Strukturen, auf je einer Seite eines Türraums gelegen, wobei ihre türaufnehmenden Öffnungen einander gegenüberliegen, so miteinander verbunden werden können, dass ein doppelter Rahmen zur Aufnahme, im Gebrauch, dop-

pelter Gleittüren entsteht,
gekennzeichnet dadurch dass:

- besagtes monolithisches senkrechtes Profil (A) hat einen geschlossenen Kastenquerschnitt (1,2,3), wobei jede Seitenwand des geschlossenen Kastenquerschnitts im wesentlichen als Fortsatz davon von einem von zwei entgegengesetzten parallelen Wandstege (1') fortgesetzt wird, der in der türaufnehmenden Struktur verläuft, mit aufgerauten oder gerändelten Seitenoberflächen (1'), die die Kante einer Wandplatte (C) berühren, wodurch in besagtem geschlossenen Kastenquerschnitt mindestens eine Wand quer zu den Seitenwänden "omega"förmig in Querschnitt ist, so dass eine zentrale Längsvertiefung entsteht, wodurch "C"-gerippte Längsaufnahmen aus dem geschlossenen Kastenquerschnitt in der türaufnehmenden Struktur vorstehen und darin festgeklemmte Schrauben-Klemmmittel tragen, die in Anschlag auf verschiedene Weise mit dem oberen Führungstützquerträger (E) und dem Basisquerträger (F) verbunden sind; und
- jeder Leistenstab (B) ist als Kastenquerschnitt mit im wesentlichen "L"-Form geformt und umfasst außerdem eine Wandrippe (5), die sich von einer Endwand eines Teils des "L"-förmigen Kastenquerschnitts in die türaufnehmende Öffnung erstreckt und nahe dazu, so dass eine Längsaufnahme (5") zwischen der inneren Seite der Wandrippe (5) und dem zweiten fernen Teil des "L"förmigen Kastenquerschnitts (5') entsteht, um auf verschiedene Weise darin die Kante einer Wandplatte aufzunehmen (C), und darin den "omega"-Querschnittgeformten Kopf eines oberen oder Basisquerträgers zu halten, der dazu dient, entgegengesetzte Leistenstäbe zu verbinden;

jeder Leistenstab (B) besitzt des weiteren vorspringende Stifte (6), die von dem "L"förmigen Kastenquerschnitt in der Wandrippe entgegengesetzter Richtung verlaufen, um ein Längsdeckprofil zu verankern.

Revendications

1. Un contre-châssis dont le type de construction est à double paroi, pour accueillir dans sa double paroi une porte coulissante comprenant :

- au moins une structure accueillant la porte (D) ayant deux parois parallèles espacées de façon opposée afin de former une double paroi et chacune comprenant un panneau de paroi

de placoplâtre (C), de préférence maintenu en place par une pluralité de traverses (8) espacées, l'une étant au-dessus et parallèle à l'autre;

chaque panneau de paroi étant relié :

- d'un premier bord vertical de celui-ci à un profilé vertical monolithique simple (A), situé à cette extrémité de la structure accueillant la porte opposée à l'ouverture pour accueillir une porte coulissante à travers celle-ci; et
- d'un deuxième bord vertical opposé à celui-ci à une douve de planche (B) constituant un profilé vertical interne situé près de l'ouverture accueillant une porte coulissante à travers celle-ci,

chacun desdits profilé vertical monolithique (A) et douve de planche (B) ayant des logements accueillant le bord vertical du panneau de paroi respectif (C), ladite structure accueillant au moins une porte ayant en outre :

- une traverse supérieure de guide et de support (E),
- une traverse de base (F) et
- un profilé de chambranle extérieur (F1), proche de ladite traverse de base et incluant le moyen de support pour relier les deux parois de la structure accueillant la porte, et
- un logement rehaussé supportant un rail de guide de porte pour son engagement par une coulisse correspondante d'une porte coulissante;
- ladite traverse supérieure de guide et de support (E) étant telle que deux desdites structures accueillant la porte, situées de chaque côté d'un encadrement de porte avec leurs respectives ouvertures accueillant la porte situées l'une en face de l'autre, pouvant être interconnectées de façon à former un contre-châssis double pour accueillir des portes coulissantes doubles,

caractérisé en ce que:

- ledit profilé vertical monolithique (A) a une section "en boîte" fermée (1, 2, 3), chaque face latérale de ladite section "en boîte" fermée se poursuivant substantiellement dans le prolongement de celle-ci par l'une des deux ailettes de paroi parallèles opposées (1'), s'étendant dans la partie interne de la structure accueillant la porte, et dont les côtés externes des surfaces sont rugueux ou moletés (1') se mettant en contact avec le bord d'un panneau de paroi respec-

tif (C), de manière à ce que dans ladite section "en boîte" fermée, au moins une paroi transversale auxdites faces latérales soit de forme "oméga" en section de façon à avoir un creux central longitudinal, et de manière telle que des logements longitudinaux nervurés en "C" saillissent de ladite section "en boîte" fermée dans la structure accueillant la porte et portent dans celle-ci des moyens de vis de serrage se reliant en butée de différentes façons à la traverse de support de guide supérieure (E) et à la traverse de base (F); et

- chacune desdites douves de planche (B), est découpée comme une section "en boîte" substantiellement en forme de "L" et de plus inclut une ailette de paroi (5) s'étendant d'une extrémité de paroi d'un segment de la section "en boîte" en forme de "L" vers l'intérieur de l'ouverture accueillant la porte et proche de celle-ci, formant de cette manière un logement longitudinal (5") entre la face intérieure de ladite ailette de paroi (5) et le deuxième segment plus distant de la section "en boîte" en forme de "L" (5'), afin d'y recevoir de différentes façons le bord d'un panneau de paroi respectif (C), et pour y retenir la tête de la traverse en forme de "oméga" d'une traverse respective supérieure ou de base servant à connecter des douves de planches opposées;

chaque douve de planche (B) ayant en outre des goupilles saillantes (6) s'étendant de la section "en boîte" en forme de "L" dans une direction opposée à celle de ladite ailette de paroi afin de fixer un profilé d'enrobage longitudinal.

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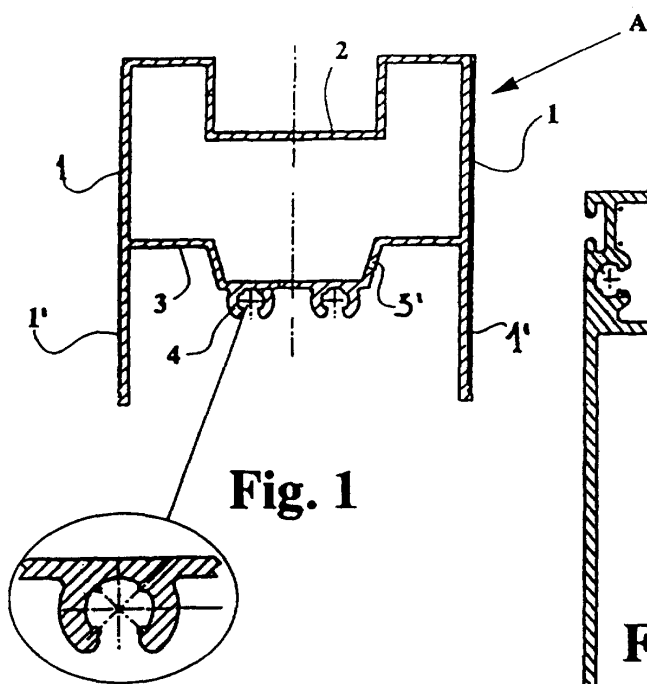


Fig. 1

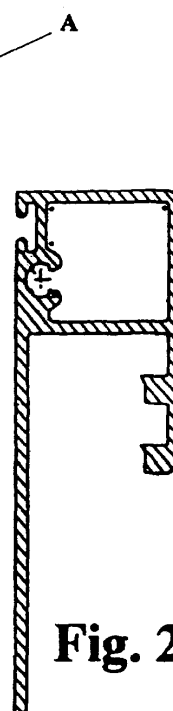


Fig. 2A

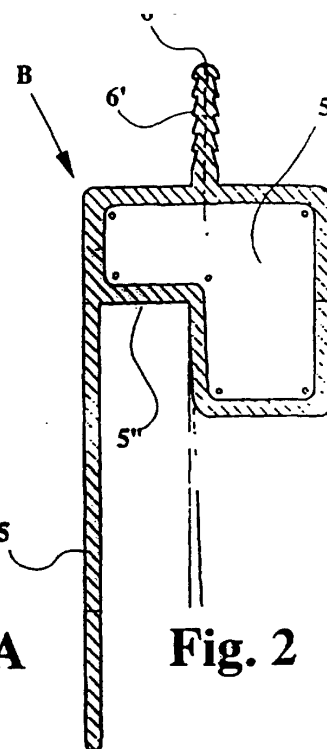


Fig. 2

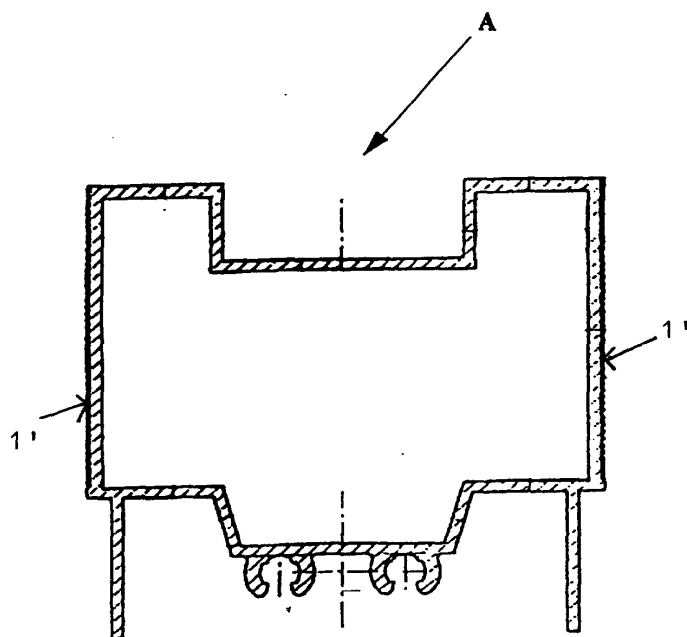


Fig. 1A

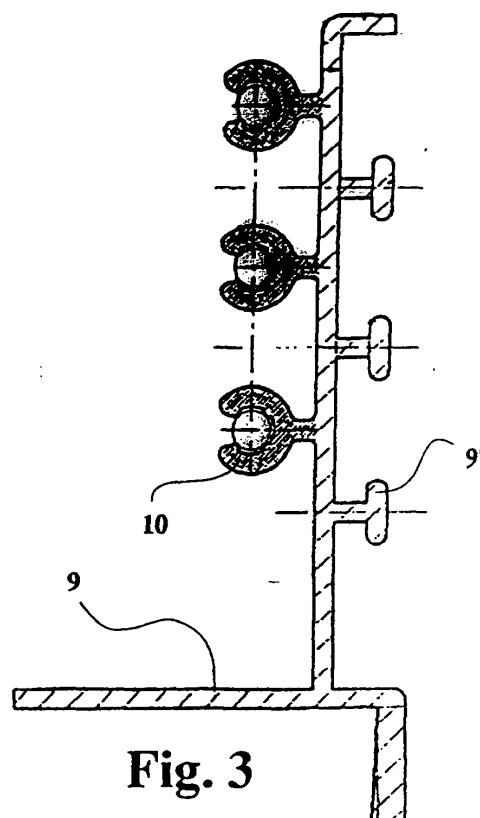


Fig. 3

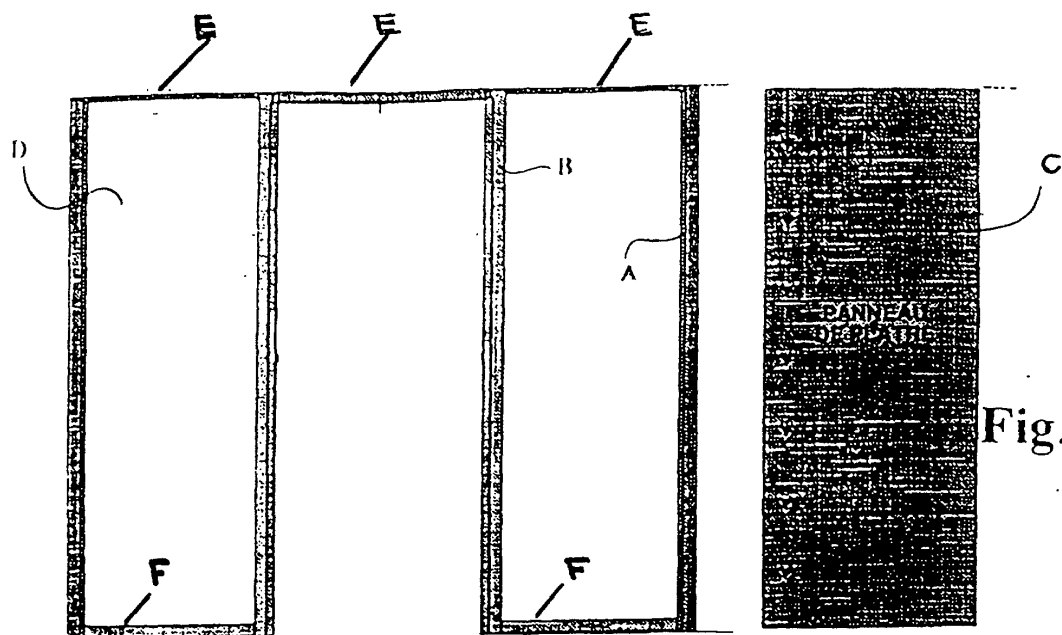


Fig. 4

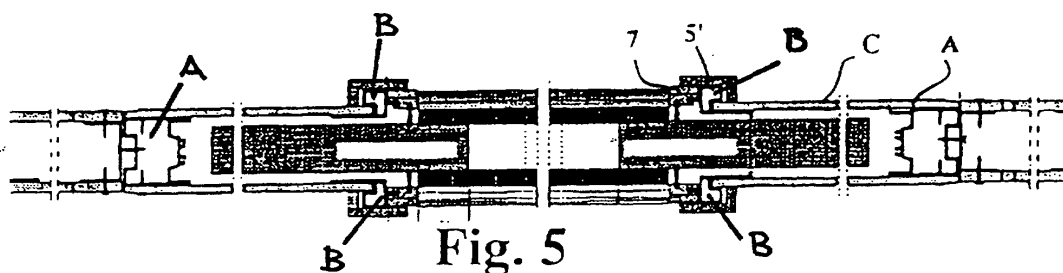


Fig. 5

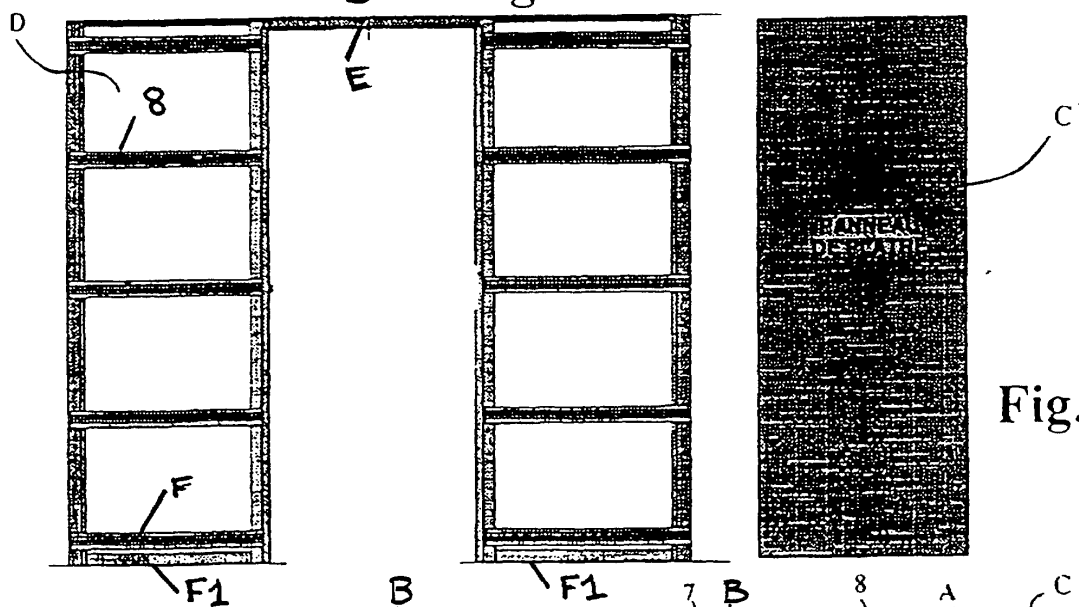


Fig. 6

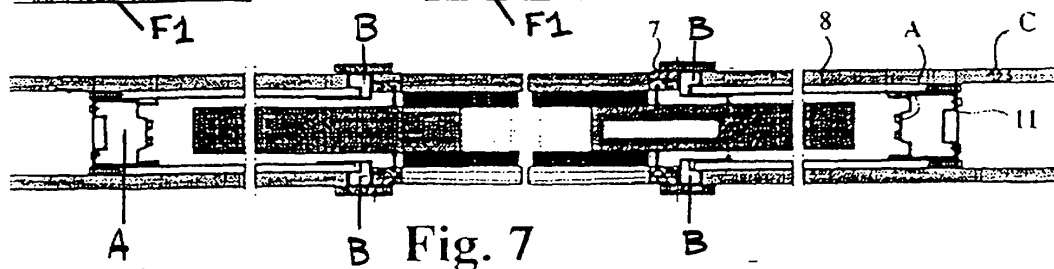


Fig. 7