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(54) PROTECTIVE FRAME FOR MOUNTING CASINGS

(57) Protective frame for mounting casings of the type used in construction for the subsequent installation of metal doors in general and fire doors, essentially **characterised in that** the pre-formed metal casing is internally fitted with a protective frame which provides it with the necessary stiffness for handling during transport and subsequent mounting when being embedded in external or internal walls of buildings. Once the casing setting time has elapsed, the protective frame is removed and the casing is ready for the installation of the door when needed, thereby avoiding any damage to the paint on the door owing to impacts, scratches or marks.

The invention presented offers the main advantages of providing greater ease and precision in mounting, given that it can be carried out by just one worker, considerably reducing labour whilst at the same time avoiding any damage to the door leaf.

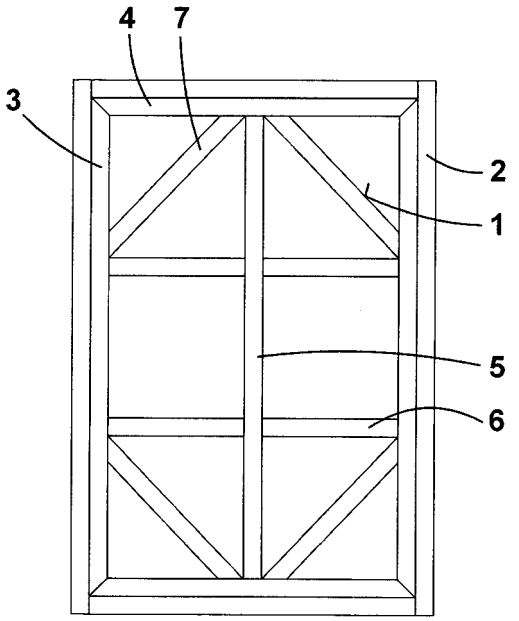

FIG.1

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Description

[0001] As indicated in the title, the present description refers a protective frame for mounting casings of the type used in construction for the subsequent installation of metal doors in general and fire doors, essentially characterised in that the pre-formed metal casing is internally fitted with a protective frame which provides it with the necessary stiffness for handling during transport and subsequent mounting upon embedding in external or internal walls of buildings. Once the casing setting time has elapsed, the protective frame is removed and the casing is ready for the installation of the door when needed, thereby avoiding any damage to the paint on the door owing to impacts, scratches or marks.

[0002] It is generally known that there is the need to mount metal doors, in particular fire doors, in the building industry in general, essentially due to current safety regulations that require their installation. At present it is widely known that there are numerous, different types of metal casings that are transported to the work site as a set, that is, metal casing and door leaf, which is then fitted directly in the external or internal wall, with the consequent serious disadvantages of, firstly, having to prepare a free area to store the doors, taking care to ensure that it is as far away as possible from where machinery is used or making sure it is not a passing place to prevent, as far as is possible, impacts to the doors that may damage them or even make them unusable.

[0003] Another disadvantage of this type of mounting is the weight of the set formed by the metal casing and door leaf, since for handling and subsequent mounting three people are required to embed it perfectly in the wall. This difficultly is even greater in the case of double-leaf doors, increasing the cost of labour considerably.

[0004] Furthermore, a significant disadvantage is that, once the door has been mounted, in many cases in passing places, door leaves suffer damage from impacts, scratches, marks of materials such as remains of cement, gypsum, plaster, etc., and often have to be replaced upon completion of building work, adding significant extra costs to the general budget.

[0005] To resolve the current problems that exist, a protective frame for mounting casings has been designed, being the object of the present invention. The invention is preferably made of wood or a similar material, plastic or fibre moulded to form a frame or simulating a false door and snaps directly onto the inner part of the metal casing, providing it with the necessary stiffness for handling during transport and subsequent mounting, with the possibility of being able to apply it in the same way to double-leaf door casings.

[0006] The frame has the dual function of providing the casing with stiffness as well as protecting it from possible damage, especially that caused by impacts. In this way the casing, with its protective frame is transported to the work site without it being necessary to set aside or prepare a place for storage, as they can be left at the site where they are subsequently to be installed.

[0007] Mounting is carried out with great ease, just one worker being required to install the casing thanks to the stiffness provided by the protective frame. This allows the casing to be handled without any difficulty or effort, due to its low weight, enabling the casing to be installed in a short time, even at the work site itself, considerably reducing general costs and labour.

[0008] The metal casing may comprise a mitred top part with the lower part free, or may comprise a section fitted by butt joint both at the top and bottom, allowing reversible mounting of door leaves. As can be seen, the casings may have different shapes but the frame that is presented is of particular use for all of them.

[0009] Once the casing has been embedded in the wall, when the setting time of the plaster, cement or fixing system has elapsed, the casing takes on a great stiffness, being totally ready for the door leaf to be fitted to it; however, the door leaf is not mounted until it is necessary to install it, at which time the door leaves are transported to the work site thus eliminating any storage problems that may arise, and proceeding to the direct mounting of the door leaves in the casings. This task is able to be carried out in really short times and with the guarantee that, since the building has been finished they shall not suffer any type of impacts, scratches, markets or damage to paintwork, so that the door remains perfectly mounted and adjusted for its use.

[0010] The protective frame for mounting casings that is presented offers numerous advantages over the systems currently available, the most important being that the protective frame adapts to any type of section used for the construction of metal casings.

[0011] Another important advantage of the invention is that its use provides perfect stiffness that allows better manoeuvrability both during transport and in subsequent mounting, thanks to its low weight, even in double-leaf door casings.

[0012] A further advantage is that only one worker is required to mount it perfectly in the wall, bearing in mind the significant reduction in costs that this involves.

[0013] An additional advantage is that the protective frame totally prevents any impacts to the casing, both during transport and installation.

[0014] Moreover, as an added advantage, when the door leaves have to be installed, they are transported to the work site and fitted directly to the casings, thus being completed without any risk of damage.

[0015] Lastly, we must mention the advantage offered by the undeniable constructive simplicity of the invention and its low economic cost together with its high efficiency.

[0016] In order to better understand the purpose of the present invention, a preferential practical embodiment of a casing mounting with protective frame has been represented on the drawing attached.

[0017] In said drawing, figure - 1 - shows a front view of a frame made of wood or a similar material.

[0018] Figure -2- shows a front view of a frame in

moulded fibre.

[0019] Figure -3- shows a front view of a moulded fibre frame simulating a false door.

[0020] The protective frame (1) for mounting casings (2) that is the object of the present invention, is essentially formed, as can be seen in figure 1, by a rectangular structure, preferably in wood or a similar material, chiefly comprising two vertical strips (3) and two strips (4) placed horizontally and of a shorter length, a top one and a bottom one, forming the basic structure of the protective frame (1) by means of joining elements that are habitually used in carpentry. Moreover, to provide the structure with greater stiffness, it includes vertical reinforcements (5) and horizontal reinforcements (6) and a bracket (7) at each of the corners of the frame (1). Once mounted, it snaps onto the inside of the casing (2), obtaining a totally stiff structure ready for transport.

[0021] The protective frame (8) for mounting casings (2) that is the object of the present invention, is essentially formed, as can be seen in figure 2, by a rectangular structure, preferably in plastic, fibre or a similar material, chiefly comprising a moulded structure formed by two vertical strips (9) and two strips (10) placed horizontally and of a shorter length, a top one and a bottom one, forming a compact structure. It snaps onto the inside of the casing (2), obtaining a totally stiff structure ready for transport.

[0022] The protective frame (11) for mounting casings (2) that is the object of the present invention, is essentially formed, as can be seen in figure 3, by a rectangular structure, preferably in plastic, fibre or a similar material, chiefly comprising a moulded structure that simulates a false door, formed by two vertical reinforcements (12) and two reinforcements (13) placed horizontally and of a shorter length, a top one and a bottom one, that incorporate ribs (14) to reinforce the structure. It snaps onto the inside of the casing (2), obtaining a totally rigid structure ready for transport.

[0023] A detailed description of the rest of the features of the system presented or of its component elements is purposely omitted, given that it is not considered that the rest of the features are the object of any claim.

[0024] Having described the nature of the present invention in sufficient detail, in addition to a means for putting it into practice, all that remains to be added is that its description is not restrictive, and that some variations in materials, shapes or sizes can be made provided that said variations do not alter the essential nature of the characteristics claimed below

Claims

1. Protective frame for mounting casings of the type used in construction for the subsequent installation of metal doors in general and fire doors, essentially **characterised in that** the pre-formed metal casing is internally fitted with a protective frame which provides it with the necessary stiffness for handling during transport and subsequent mounting when being embedded in external or internal walls of buildings. Once the casing setting time has elapsed, the protective frame is removed and the casing is ready for the installation of the door when needed, thereby avoiding any damage to the paint on the door owing to impacts, scratches or marks.

2. Protective frame for mounting casings, according to the preceding claim, wherein the protective frame (1) is essentially formed by a rectangular structure, preferably of wood or a similar material, chiefly comprising two vertical strips (3) and two strips (4) placed horizontally and of a short length, a top one and a bottom one, forming the basic structure of the protective frame (1) by means of joining elements that are habitually used in carpentry, incorporating vertical reinforcements (5) and horizontal reinforcements (6) and a bracket (7) at each of the corners of the frame (1).

3. Protective frame for mounting casings, according to the first claim, wherein the protective frame (8) is essentially formed by a rectangular structure, preferably in plastic, fibre or a similar material, comprising a moulded structure formed by two vertical strips (9) and two strips (10) placed horizontally, and of a shorter length, a top one and a bottom one.

4. Protective frame for mounting casings, according to the first claim, wherein the protective frame (11) is essentially formed by a rectangular structure, preferably in plastic, fibre or a similar material, comprising a moulded structure that simulates a false door formed by two vertical reinforcements (12), and two reinforcements (13) placed horizontally and of a shorter length, a top one and a bottom one, including ribs (14) that reinforce the structure.

5. Protective frame for mounting casings, according to the preceding claims, wherein the protective frames snap onto the inside of the casing (2), obtaining a totally stiff structure for transport and subsequent mounting at the work site.

6. Protective frame for mounting casings, according to the preceding claims, wherein the protective frames can adapt to any type of section used in the construction of metal casings, including double-leaf casings.

7. Protective frame for mounting casings, according to the preceding claims, wherein the installation of the protective frame is carried out with great ease, thanks to its low weight, and with the intervention of just one worker.

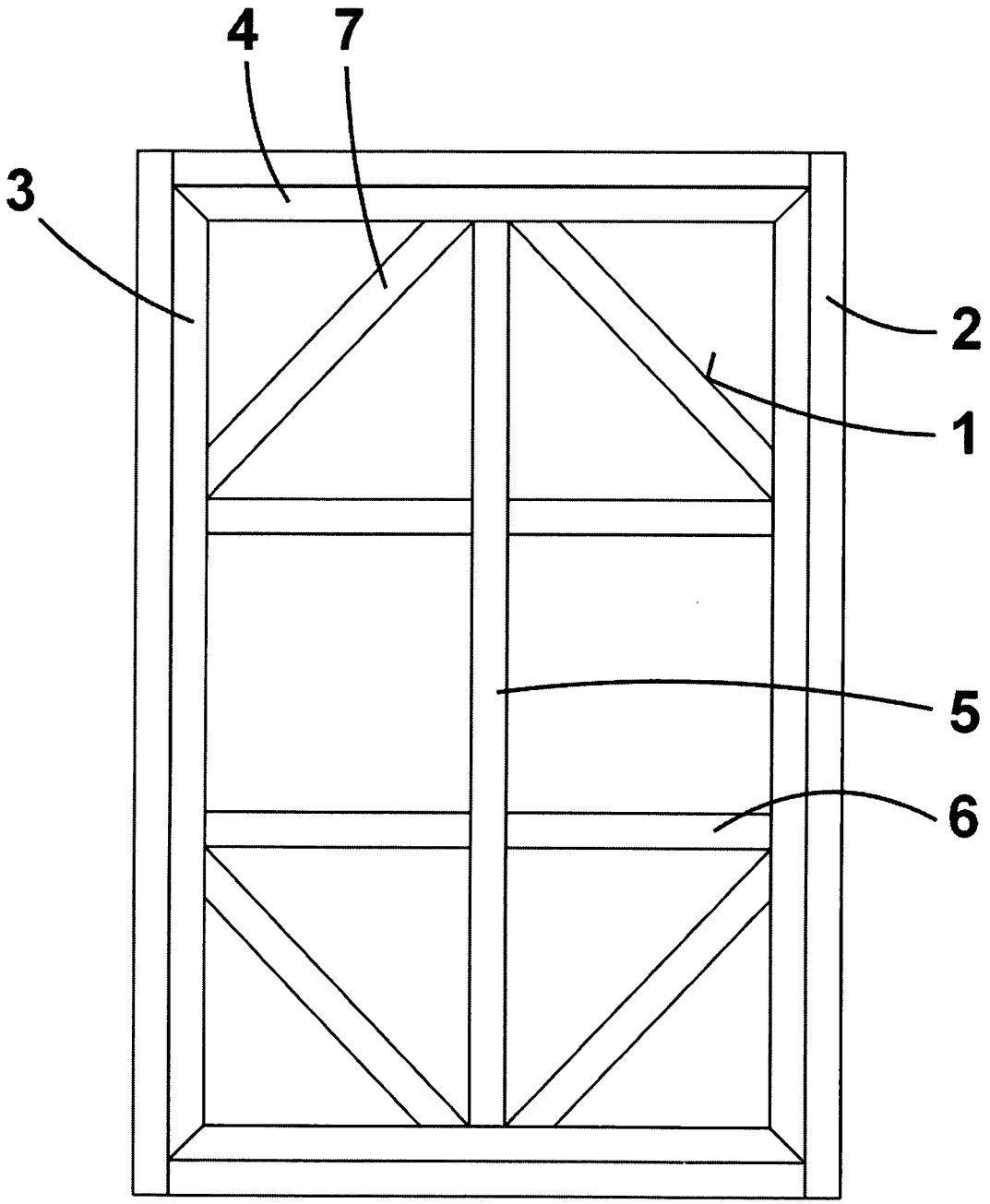

FIG.1

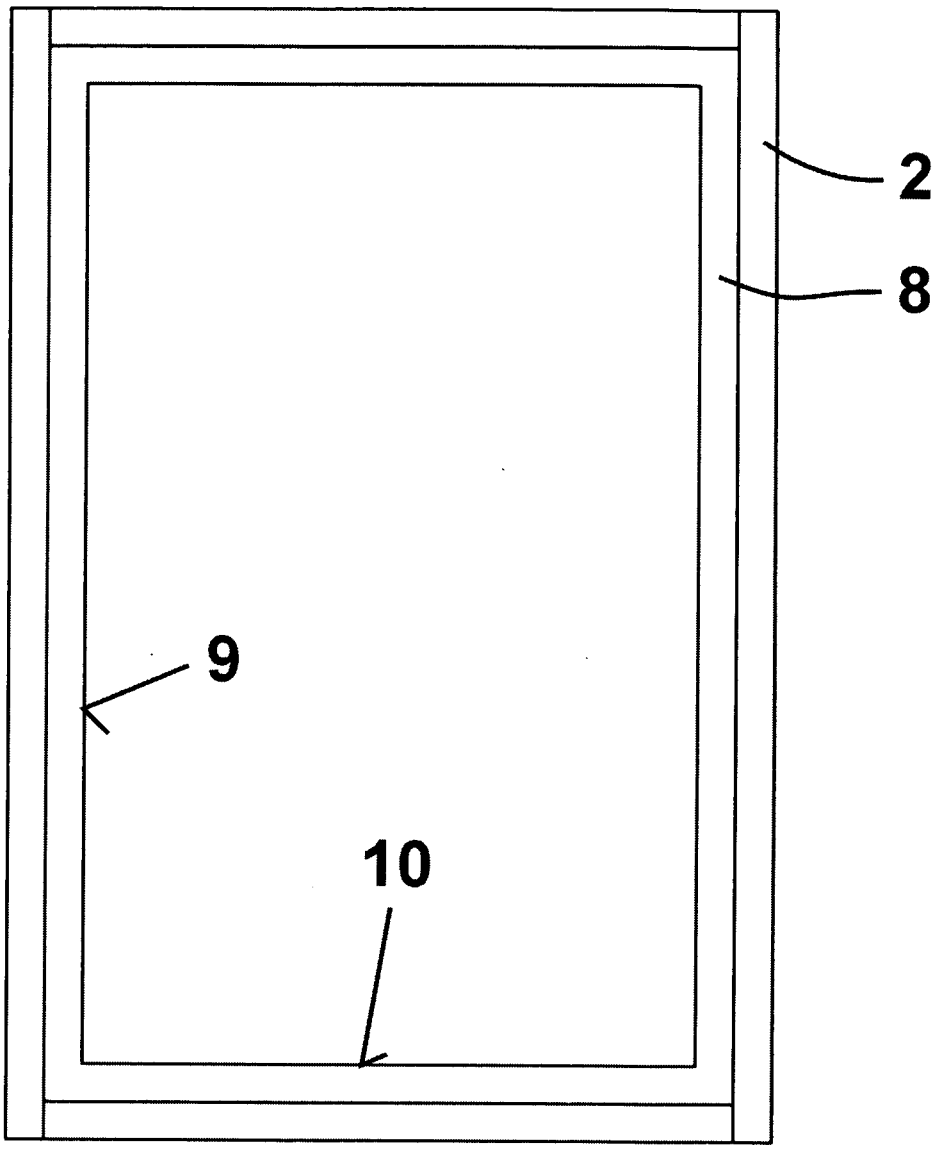

FIG.2

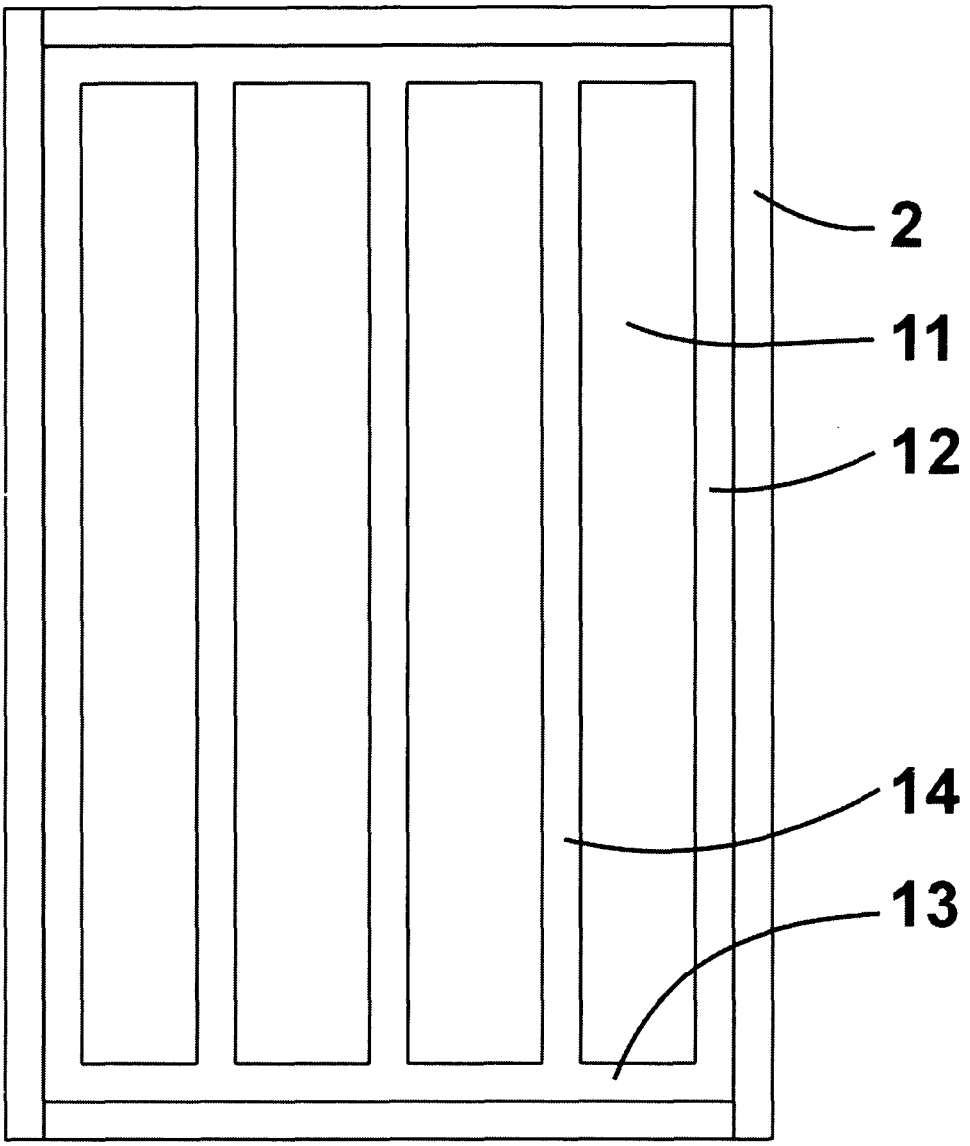

FIG.3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ ES 2004/000584

A. CLASSIFICATION OF SUBJECT MATTER

IPC[7] E06B1/02, E06B1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC[7] E06B+

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CIBEPAT,EPODOC,WPI,PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	ES1053005 U (LORETO RUSELL VALL) 2003-03-01; **column 1, line 59-column 4, line 50 & figures.**	1-4
A	BR7002073 U (NARDI IND & COMERCIO) 1991-10-01; **whole document.**	1-4
A	ES1014040 U (PEDRO POL PARES) 1991-02-16; **whole document.**	1-4

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
02 March 2005 (02.03.2005)	**01 April 2005 (01.04.2005)**
Name and mailing address of the ISA/	Authorized officer
Facsimile No.	Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No
PCT/ ES 2004/000584

Patent document cited in search report	Publication date	Patent familiy member(s)	Publication date
ES 1053005 U	01.03.2003	ES 1053005 Y	16.06.2003
BR7002073U U	01.10.1991	**NONE**	
ES 1014040 U	16.02.1991	ES 1014040 Y	16.07.1991

Form PCT/ISA/210 (patent family annex) (July 1992)