(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 1 840 313 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
03.10.2007 Bulletin 2007/40

(51) Int Cl.:
E06B 1/20 *(2006.01)* ***E06B 1/60*** *(2006.01)*

(21) Application number: **07006295.5**

(22) Date of filing: **27.03.2007**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK YU

(30) Priority: **31.03.2006 BE 200600205**

(71) Applicant: **Van Cauwenberge NV**
9620 Zottegem (BE)

(72) Inventor: **Van Cauwenberge, Tim**
9860 Balegem (BE)

(74) Representative: **Brants, Johan P.E. et al**
De Clercq, Brants & Partners cv
Edgard Gevaertdreef 10a
9830 Sint-Martens-Latem (BE)

(54) **Door and/or window frame with adjustable width**

(57) The present invention related to a frame or casing for a door and/or window, the width of which being adjustable to the thickness of the wall. This effect is obtained because the frame includes a partial frame the width of which being adjustable. By including breaking areas and a hook connection with complementary lip, the adjustable partial frame can rapidly be broken down to size and the frame can easily be mounted in a very simple manner. The invention further describes also a door and window, the casing of which is composed of these frames with adjustable width.

EP 1 840 313 A1

Description

Technical field

[0001] The present invention provides a frame with posts, the width of which being adjustable to the thickness of the wall. Furthermore, the invention relates to a door, wherein this frame consists of two upright frames and one transverse frame, and a window, comprising a frame with two upright and two transverse frames.

Background of the invention

[0002] A door is composed of two parts, namely a fixed part, called door frame or door casing, and a moving part, called door leaf. The function of the frame is finishing the opening in the structure of a building, and furthermore it offers a doorstop for the door leaf and the possibility to attach hinges and lock pieces. The frame consists of two upright posts and one transverse post which are attached to the wall and which are composed of finishing frames at both sides of the wall which grip the casing, usually provided with a doorstop. The frame of a window is often composed in the same way, except with the difference that two transverse posts are provided instead of one.

[0003] When casing doors and windows, the frame needs always to be adapted to the thickness of the wall, which often may differ, for example according to the type of stone, the thickness of the plasterwork or the type of inner wall. At present, this is done by sawing the casing down to size or by using a kind of prefab frame which operates by means of a sliding system in the finishing frame.

[0004] However, the problem with this finishing system is that the finishing frame is located too far from the casing which leads to aesthetic deviations. Moreover, only a difference in thickness of maximum 2 to 3 cm may be accommodated, such that a dealer still needs to have several widths of casings on stock.

[0005] Also, when sawing the casing down to size, several problems arise. As an individual seldom has the necessary tools for sawing down a casing, the casing is often processed to the exact width by a skilled person with a professional expensive saw. Then, the skilled person has the choice to carry out this narrowing at its workshop, which is not very practical from an organizational and logistical point of view, or he can choose to saw down the casing at the construction site, which is again very laborious and rather time-consuming.

[0006] As can be clearly concluded from the problems described above, there is a need for a door and/or window frame which does not show these disadvantages. Hence, the present invention provides a solution for these problems by providing a frame which can be adapted in a very simple manner to the thickness of the wall.

Summary of the invention

[0007] In its most general form, the present invention provides a frame or casing according to claim 1, wherein the width of the frame is adjustable. Because of this, the frame may be ordered and assembled without knowing in advance the thickness of the wall, and time-consuming and impractical pretreatments, such as sawing the casing down to size, become redundant. Furthermore, it offers also a solution to the dealer who does not need to store a vast stock of casings with a lot of different widths. Also, another advantage is that the adaptation in the frames is not visible compared to the effect obtained with the sliding system in the finishing frame.

[0008] The frame of the invention is further characterized in that a frame comprises two partial frames which fit into each other, the first partial frame having a fixed width, whereas the width of the second partial frame is adjustable. Preferably, the second partial frame contains breaking areas in the longitudinal direction, along which the partial frame may be easily and in a controlled manner be broken on certain predefined locations. In this way, after fitting the second, shortened partial frame with the first partial frame, a frame is composed and consequently also a frame with a smaller width, which is adapted to the thickness of the wall.

[0009] Fitting the two partial frames together is done by means of a fitting means, wherein the fitting means part of the second partial frame is at least partial complementary to that of the first partial frame. This complementarity ensures that both partial frames fit easily and firmly into each other. The fitting means consists of a male and female part, preferably respectively a long lip with breaking areas and a recess, wherein the recess is able to receive at least a part of the long lip. The female part is present in the partial frame with fixed width, whereas the male, adjustable part is present in the partial frame with adjustable width. To ensure additional anchoring of both partial frames, in one embodiment of the invention both parts of the fitting means are provided with interlocking hook elements.

[0010] Depending on the desired finishing, the frames of the casing can be made of MDF, another type of fibreboard, a type of wood, aluminium or a plastic.

[0011] Finally, the present invention also relates to a door with an adjustable frame as described above, consisting of two upright posts and one transverse post, and it further provides a window composed of a frame with two upright and two transverse posts according to the invention.

Short description of the figures

[0012]

Fig. 1 shows a cross section of a frame according to an embodiment of the invention in an assembled state.

Fig. 2 shows a cross section of a frame according to another assembled embodiment of the invention wherein the fitting means consists of interlocking hook elements.

Detailed description of the invention

[0013] The objective of the present invention is to provide a frame for a door and/or window, the width of which being adjustable to the thickness of the wall in a simple manner. For this, use is made of a frame consisting of two partial frames which fit into each other, one having a fixed width, the other having an adjustable width.

[0014] Fig. 1 shows a cross section of a frame according to one embodiment of the invention in an assembled state. The frame consists of a first (**2**) and a second (**3**) partial frame which is fitted between two finishing frames (**1, 4**), which have been placed at both sides of the wall (**10**). The first partial frame (**2**) has a fixed width and comprises a doorstop (**11**) for stopping the door leaf (**9**), and a protruding lip (**7**) with a recess (**12**) in between. The second partial frame (**3**) is characterized by an adjustable width and comprises a long lip (**8**) provided with breaking areas (**5**) by means of indentations made in the interior layer of the long lip (**8**). The two partial frames (**2, 3**) fit into each other by means of a (partially) complementary fitting means consisting of a female part, namely the recess (**12**) between the doorstop (**11**) and protruding lip (**7**) of the first partial frame (**2**), and a male part, namely the long lip (**8**) with breaking areas (**5**) of the second partial frame (**3**).

[0015] By means of triangular indentations at the interior, i.e. the non-visible side after assembly, breaking areas (**5**) are created in the long lip (**8**) of the second partial frame (**3**). Because of this, the desired part of the second partial frame (**3**) may easily be broken off. When subsequently fitting both partial frames (**2, 3**) together, the part where the long lip (**8**) has been broken off, fits the recess (**12**) under the doorstop (**11**) in a concealed way. In this way, the width of the second partial frame (**3**) can be shortened until, after fitting together, the total width of both partial frames (**2, 3**) approximately corresponds to the thickness of the wall. The fact that a recess (**12**) has been provided which receives the broken part of the long lip (**8**), has several advantages. It ensures a good connection and attachment of both partial frames (**2, 3**) after assembly, the broken part is not visible after assembly and no fragments may further break off after the breaking.

[0016] As shown in Fig. 2, in another embodiment, the long lip (**8**) of the second partial frame (**3**) also comprises hook areas (**6**) adjacent to the breaking areas (**5**). In this figure, a hook element is located at the interior of the long lip (**8**), between each two adjoining breaking areas (**5**), here a semi-ball, which forms the hook area (**6**), and attached to it is a more planar part which is rounded towards the next breaking area (**5**). The protruding lip (**7**) of the first partial frame (**2**) comprises a hook element essentially complementary to the semi-ball-shape of the long lip (**8**). By implementing the long (**8**) and protruding (**7**) lip in this way, it is possible to hook the second, tailor-made broken partial frame (**3**) into the first partial frame (**2**), such that both partial frames (**2, 3**) are more firmly fitted together before they are fitted in between both finishing frames (**1, 4**).

[0017] The assembly of a frame according to the present invention occurs in the following manner. Firstly, the first partial frame (**2**) is exactly positioned and levelled at its position and screwed tightly against the wall. The screws are preferably introduced in the protruding lip (**7**), as this part is not visible after assembly. The broken to size partial frame (**3**) is hooked into the first partial frame (**2**) and is thus immediately levelled. When using the embodiment of Fig. 1, the hooking comprises sliding the broken to size long lip (**8**) into the recess (**12**). When mounting the embodiment of Fig. 2, the second partial frame (**3**) with the part where the long lip (**8**) has been broken of, is firstly positioned perpendicular to the protruding lip and subsequently put in place by moving and rotating at the same time the second partial frame (**3**) with respect to the first partial frame (**2**). The long lip (**8**) is moved over the more planar rounded part until the broken part has disappeared in the recess (**12**) and the hook element is located in the complementary part of the protruding lip (**7**). Subsequently, along both sides of the composed frame (**2, 3**) a finishing frame (**1, 4**) is placed which ensures the further fitting of the composed frame (**2, 3**). Eventually everything may be injected or fixed with construction foam.

[0018] The choice of material the frames are made of, depends on the desired finishing. When a massive wooden door leaf is chosen, preferably the frame is also made of the same type of wood. Painted door leafs may also be framed with massive wood but as soon as the frame is also to be painted, preferably fibreboard is used and even more preferably MDF, because of its better painting results. When washability is an important factor, plastic or aluminium is preferred, which is also frequently chosen for its metal colour. Moreover, other types of material are also possible, but as the previous ones are the most common ones, others are not discussed here in further detail. Of course, it is clear for the skilled person that the present invention is not restricted to the described types of material, but that this discussion should be considered as purely illustrative.

[0019] The above described frames are especially designed for the formation of a frame or casing for a door and/or window. To this end, in the case of the door, at the side two upright frames and on top one transverse frame is mounted. In the case of a window, at the bottom also a transverse frame is provided. The invention thus protects also a door and/or window comprising a frame with one or more features of the invention.

[0020] Two essential features of the invention are the presence of breaking areas (**5**) and the combination of a hook connection (**6**) with a protruding lip (**7**), as a result of which the frames may be mounted much more easily

and more rapidly, both by a skilled person and a layman. Furthermore, the frame may be adapted to the thickness of the wall in a very simple way, namely by breaking by hand, as a result of which the measuring in advance and time-consuming and cumbersome pretreatments, such as sawing down the casing, become superfluous. For a dealer, this has the advantage that he only needs to have a limited stock of casings with several widths available.

Claims

1. Frame or casing comprising a number of upright frames and at least one transverse frame, which are suitable to be mounted in a wall recess, **characterized in that** the width of the frames is adjustable.

2. Frame according to claim 1, wherein a frame comprises two partial frames that fit into each other, of which a first partial frame has a fixed width and a second partial frame has an adjustable width.

3. Frame according to claim 1 or 2, wherein the partial frame with adjustable width has breaking areas in the longitudinal direction.

4. Frame according to any one of the preceding claims 1 to 3, wherein the two partial frames described in claim 2 fit into each other by means of an at least partially complementary fitting means.

5. Frame according to any one of the preceding claims 1 to 4, wherein the fitting means consist of a female part, preferably a recess in the partial frame with fixed width, and a male part, preferably a long lip with breaking areas on the partial frame with adjustable width.

6. Frame according to any one of the preceding claims 1 to 5, wherein the fitting means consists of a number of interlocking hook elements.

7. Frame according to any one of the preceding claims 1 to 6, wherein a frame consists of MDF, another type of fibreboard, a type of wood, aluminium or a plastic.

8. Door comprising a frame according to any one of the preceding claims 1 to 7, consisting of two upright frames and one transverse frame.

9. Window comprising a frame according to any one of the claims 1 to 7, consisting of two upright frames and two transverse frames.

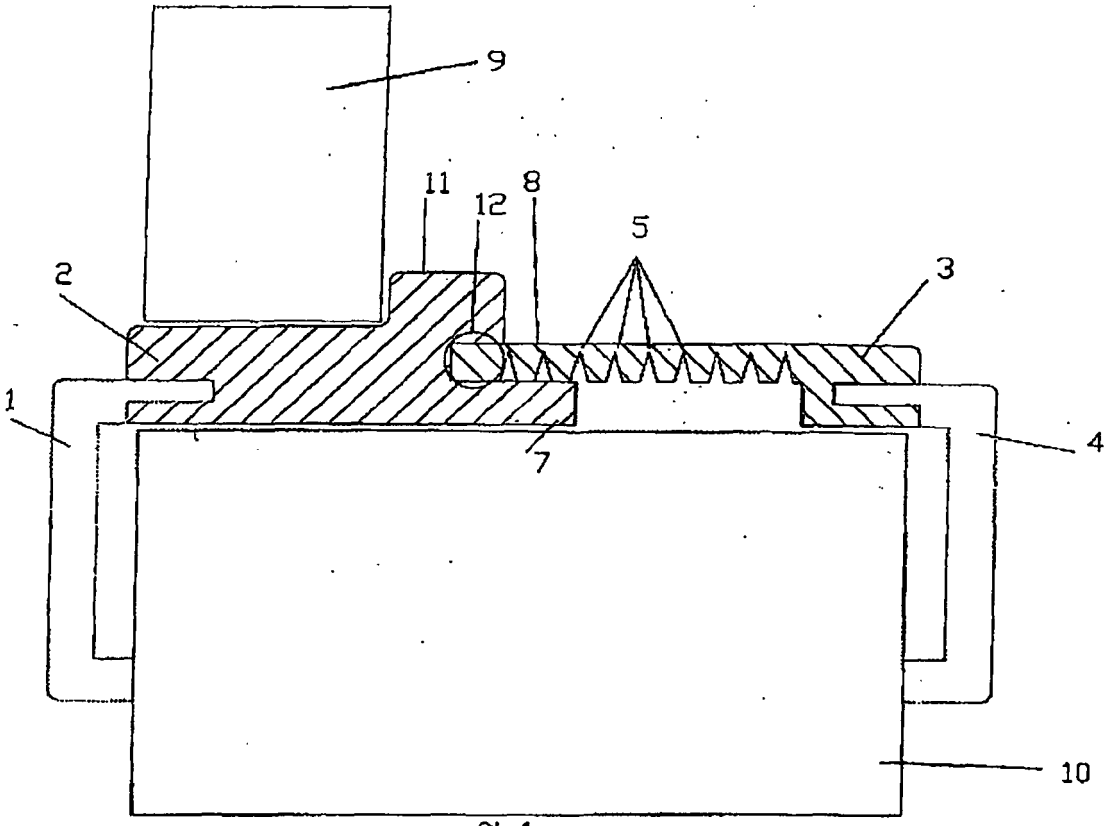

fig1

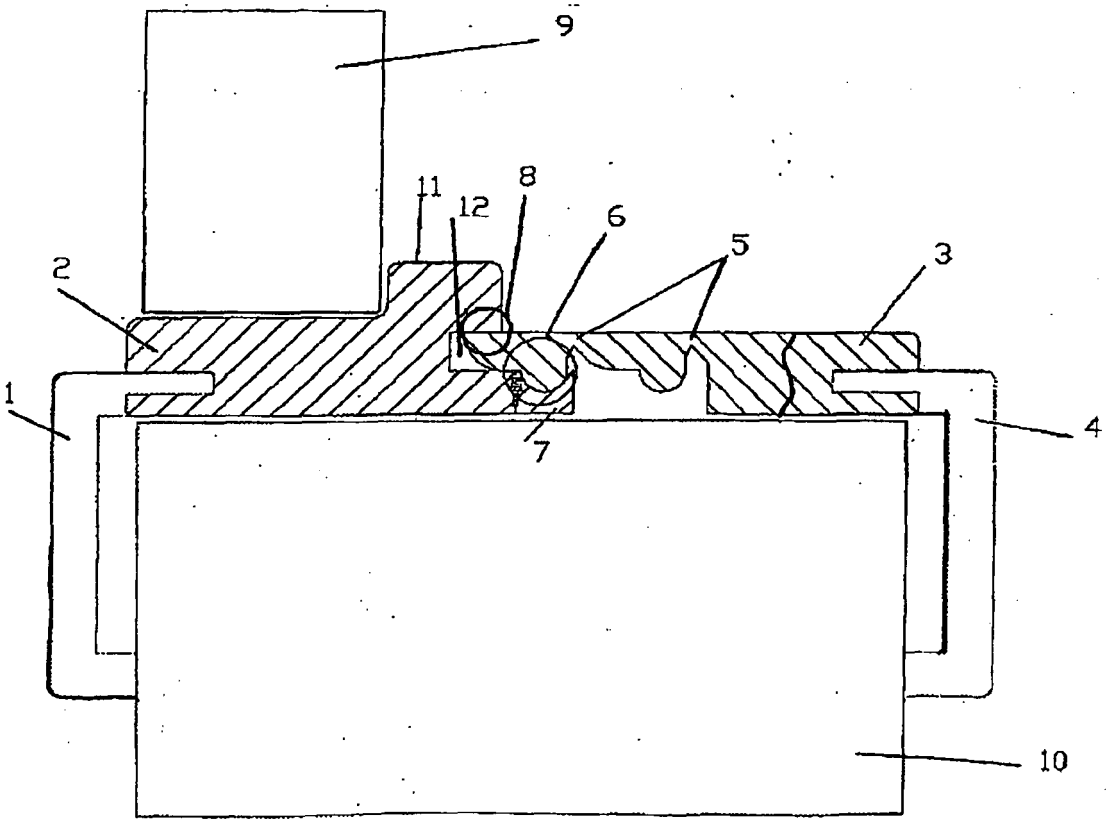

fig2

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 00 6295

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2004/005658 A (DALOC AB [SE]; SVANTESSON OSCAR [SE]; BROMANDER MAGNUS [SE]) 15 January 2004 (2004-01-15) * abstract; figure 2 *	1,2,4,5, 7-9	INV. E06B1/20 E06B1/60
X	DE 297 13 541 U1 (DIENER HORST [DE]) 25 September 1997 (1997-09-25) * abstract; claims 26,27; figures 1,2,12 *	1,2,4-8	
X	US 4 782 630 A (KLEYN ROBERT J [ZA]) 8 November 1988 (1988-11-08) * abstract; figures 1,2,4,7 *	1,5-7,9	
			TECHNICAL FIELDS SEARCHED (IPC)
			E06B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	13 July 2007	Kofoed, Peter

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 07 00 6295

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

13-07-2007

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2004005658 A	15-01-2004	AU 2003239063 A1	23-01-2004
		EP 1532343 A1	25-05-2005
		SE 524875 C2	19-10-2004
		SE 0202072 A	04-01-2004
DE 29713541 U1	25-09-1997	AU 8431198 A	22-02-1999
		WO 9906662 A1	11-02-1999
		DE 19881077 D2	27-07-2000
		EP 1000216 A1	17-05-2000
US 4782630 A	08-11-1988	AU 7736187 A	25-02-1988
		DE 8711520 U1	19-11-1987

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82