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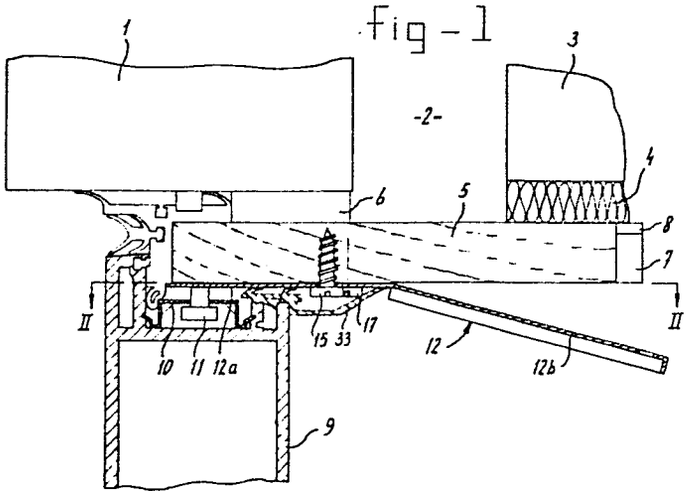
(54) Window-frame.

(57) Window-frame consisting of an outer part, the so-called mounting frame (5), which is preferably made of wood and is fastened in the wall opening, and a pre-fabricated inner part, the so-called replacement frame (9), which is preferably made of plastics material, said two frame parts being joined together along the top edge and/or along the side edges by means of eccentrically acting locking means (12), with the interposition of seals.

Fig - 1



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Window-frame

The invention relates to a window-frame consisting of an outer part, the so-called mounting frame, which is preferably made of wood and is fastened in the wall opening, and a prefabricated inner part, the so-called replacement frame, which is preferably made of plastics material.

A window-frame of this kind is known, inter alia, from Dutch Patent Application 7806419, and is used mainly in the renovation of existing buildings, such as dwellings.

Existing wooden window-frames are then removed and a mounting frame is placed in the wall opening thus formed, which frame may consist of solid wood or of strips of watertightly bonded plywood. It must obviously be ensured that the inside dimensions of the mounting frame match the outside dimensions of the prefabricated replacement frame.

In the known window-frame the components of the mounting frame must have a very special cross-section. Thus, the top rail and the stiles have resilient lips, behind which the corresponding parts of the top rail and stiles of the replacement frame must engage. The bottom rail of the mounting frame has a projection fitting into a depression in the bottom rail of the replacement frame.

The width of the lips is very critical, because otherwise the replacement frame will not be firmly seated in the mounting frame.

In the known frame scarcely any thought is given to sealing against moisture and draughts. Subsequently fitted wooden cover strips hardly appear to be able provide adequate sealing.

The invention seeks to provide a window-frame in which these shortcomings are avoided.

According to the invention this is achieved in that the two frame parts are joined together along the top edge and/or along the side edges by means of eccentrically acting locking means, with the interposition of seals.

In this way, the replacement frame is firmly clamped in the mounting frame with the application of pressure to the seals.

Each locking means preferably consists of a hinge pin fastened in the replacement frame, a flat part lying against the inner side of the top rail or stiles of the mounting frame, this flat part being provided with a curved slot which is disposed eccentrically in relation to the hinge pin and in which a screw or the like fastened in the mounting frame engages, and of a handle which serves to turn the locking means about the hinge pin and which can be removed after use.

Once fitted, the locking means are therefore no longer disturbingly visible.

Further advantages and characteristics of the invention will emerge from the example of embodiment illustrated in the drawings, in which:

Figure 1 is a cross-section through the top

rails or stiles of the frame at the position of a locking means;

Figure 2 is a section on the line II-II in Figure 1;

Figure 3 is a cross-section corresponding to Figure 1, next to a locking means and showing the seals, and

Figure 4 is a cross-section through the bottom rails of the frame.

In Figure 1 the existing outside wall of the building is designated 1, the cavity 2, and the inside wall 3. The inside wall 3 is provided with a surface layer 4.

In Figure 1 the top rail of the mounting frame is designated 5. This could also be the two stiles, because the situation where they are concerned is the same.

In order to adapt the inside measurements of the mounting frame to the prefabricated replacement frame, filler battens 6 will generally be necessary.

On the inside of the mounting frame a cover edging 7 and an inner seal 8 are also provided.

Figure 1 shows a cross-section through a part of a top rail 9, known per se, of the replacement frame made of plastics material. The replacement frame, consisting of four sections joined together, is delivered ready for use at the worksite.

At certain points the top rail 9 and the stiles (not shown) of the replacement frame are provided with

U-shaped metal bows 10, whose outwardly directed edges are clamped fast in borders of the plastics section 9. These bows 10 are preferably driven into the plastics section 9 from above, referring to Figure 1.

The centre-to-centre spacing of the bows 10 amounts for example to 400 - 500 mm.

In the centre of each bow 10 a hole is provided for a hinge pin 11 of a locking means 12.

This locking means 12 consists of sheet metal and has a part 12a in the form of a sector of a circle, and also a handle 12b.

In the part 12a in the form of a sector of a circle is formed a slot 13 having the shape of an arc of a circle. As can be seen in Figure 2, this slot is disposed eccentrically in relation to the hinge pin 11.

The slot 13 can be displaced along a screw 15 adapted to be screwed into the mounting frame 5.

In addition, a number of holes 16 are provided in the part 12a for the purpose of locking the locking means 12 with the aid of a screw 17 which can be screwed into the mounting frame.

The action will be described further on.

The fastening of the bottom side of the replacement frame will now first be described with reference to Figure 4. Here the same reference numerals are used. For the sake of convenience the bottom rail of the mounting frame is also designated 5.

On the outer side of the bottom rail a filler

batten 20 is provided, while lead flashing 21 extends over a part of the outside wall 1, the filler batten 20 and a part of the bottom rail 5.

Before the replacement window is fitted, a fastening section 22 of aluminium is applied along and in its bottom rail 9. On it is first fitted a section 23 which is made of plastics material and which, as can be seen in Figure 4, forms a cold break between the lead flashing 21 and the aluminium section 22.

It will be clear that care must be taken to provide a good seal against draughts and moisture between the replacement frame and the mounting frame.

This seal consists of a plurality of sections and is shown in greater detail in Figure 3. The seal is also shown more or less vaguely in Figure 1.

Against the front edge of the top rail 5 and stiles of the mounting frame is placed a substantially T-shaped section 24 of plastics material, containing a sealing strip 25.

At the ends of its legs are formed flexible lips 26, 27 and 28 respectively, which come to bear against the opening in the outer wall 1 and against the opening in the mounting frame 5.

Flexible sealing sections 29 and 30 are fastened in a pair of openings in the section 24. In addition, a sealing strip 31 is disposed between the sections 9 and 24.

The replacement frame is fitted in the mounting

frame 5 in the following manner:

After the various seals have been fitted, the fastening section 22 is fitted along the lower rail 9, and the various metal bows 10 together with the locking means 12 are fitted along the top rail and the two stiles.

The bottom rail 9 is then pushed inwards as far as possible over the bottom rail 5, and the fastening section 22 is fastened, provisionally if need be, in the lower rail 5 by means of screws 32.

The various locking means 12 are thereupon fastened to the top rail and stiles of the mounting frame 5.

The locking means 12 are turned in the clockwise direction (in Figure 2) about the hinge pins 11, whereby the top rails and stiles of the replacement frame and of the mounting frame are pulled towards one another.

When this pulling force is sufficiently great, the locking means 12 are locked by driving in screws 16.

Finally, the handles 12 are broken off by bending them downwards (see Figure 1). The screws 15 and the remainders of the locking means 12 are thereupon covered by a flexible finishing section 33. In order to simplify the making of mitre joints at the ends of the finishing sections and the finishing of the corners of the frame, corner pieces of plastics material can be fitted in the corners to cover the ends of the sections. These corner pieces are not shown in the

drawing.

It is thus possible to make do with a simple mounting frame.

CLAIMS

1. Window -frame consisting of an outer part, the so-called mounting frame, which is preferably made of wood and is fastened in the wall opening, and a prefabricated inner part, the so-called replacement frame, which is preferably made of plastics material, characterised in that the two frame parts are joined together along the top edge and/or along the side edges by means of eccentrically acting locking means, with the interposition of seals.

2. Window-frame according to Claim 1, characterised in that each locking means consists of a hinge pin fastened in the replacement frame, a flat part lying against the inner side of the top rail or stiles of the mounting frame, this flat part being provided with a curved slot which is disposed eccentrically in relation to the hinge pin and in which a screw or the like fastened in the mounting frame engages, and of a handle which serves to turn the locking means about the hinge pin and which can be removed after use.

3. Window-frame according to Claim 2, characterised in that the handle can be removed after use by being broken off.

4. Window-frame according to Claim 2 or 3, characterised in that means are provided for locking the locking means in the turned position in relation to the mounting frame.

5. Window-frame according to one or more of the preceding claims, wherein the replacement frame is

made of plastics material, characterised in that the hinge pin of each locking means is mounted in a metal bow firmly clamped in the replacement frame.

6. Window-frame according to one or more of the preceding claims, in which the replacement frame is made of plastics material, characterised in that in the bottom rail of the replacement frame a fastening section, preferably of aluminium, is clamped, with the aid of which the bottom rail is fastened on the bottom rail of the mounting frame.

7. Window-frame according to Claim 6, wherein a lead flashing seals the bottom rail of the mounting frame in relation to the outside wall, characterised in that a plastics section joined to the metal fastening section prevents metallic contact with the lead flashing.

8. Window-frame according to one or more of the preceding claims, characterised in that the seal between the top rails and stiles of the two frame parts consists of a substantially T-shaped plastics section having flexible sealing lips and of some flexible sealing sections.

9. Window-frame according to one or more of the preceding claims, characterised in that the parts of the locking means which are not removed are covered by a flexible finishing section.

fig-1

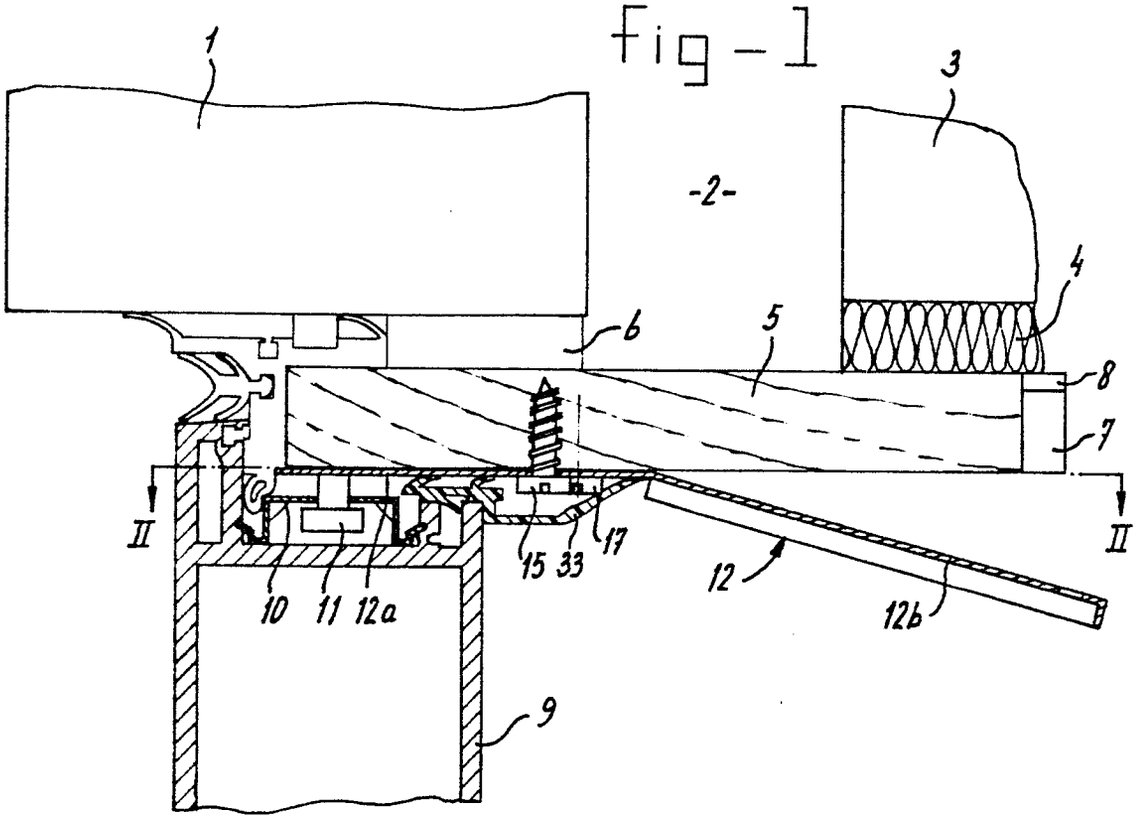
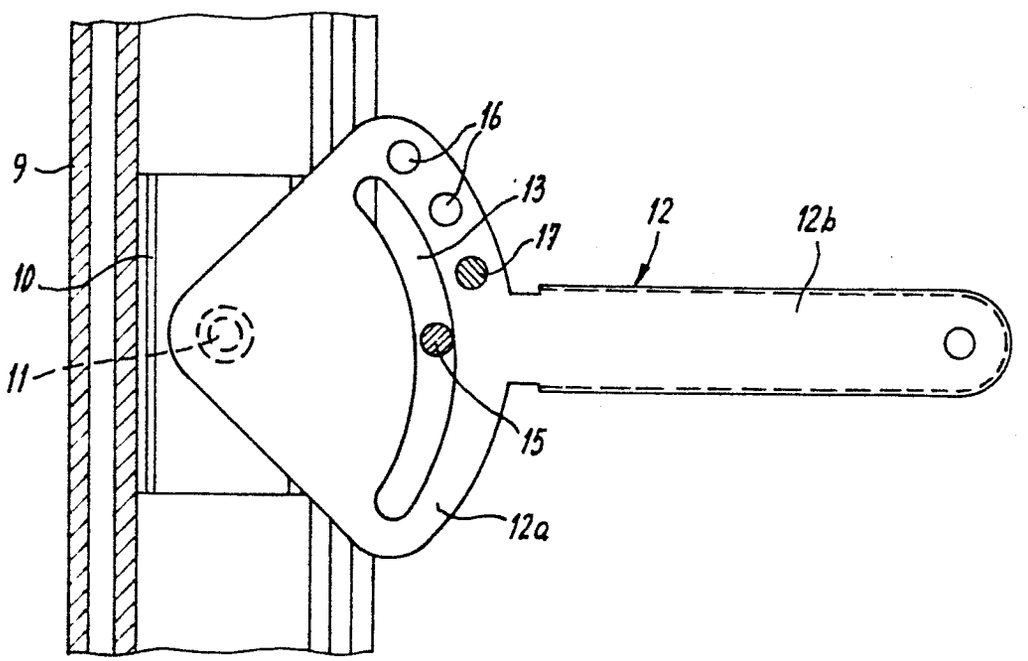

1
3
-2-
4
6
5
8
7
II
II
15
33
17
12
12b
10
11
12a
9

fig-2


9
16
13
17
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12b
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12a

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Fig-3

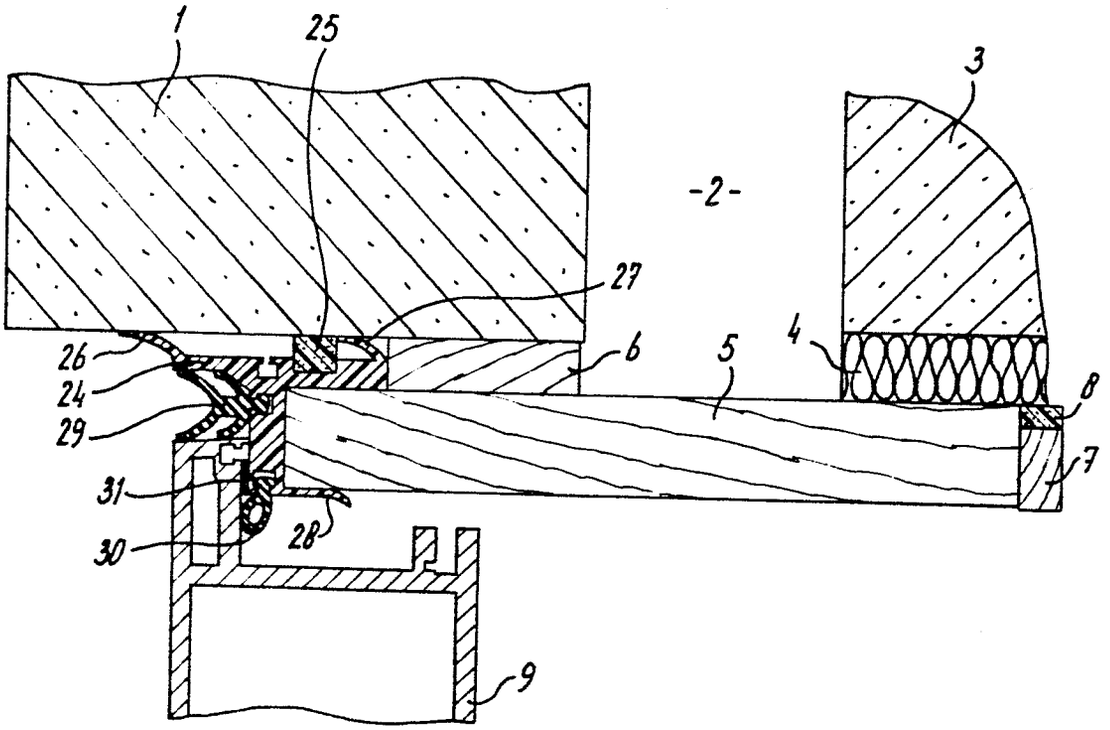

Fig-4