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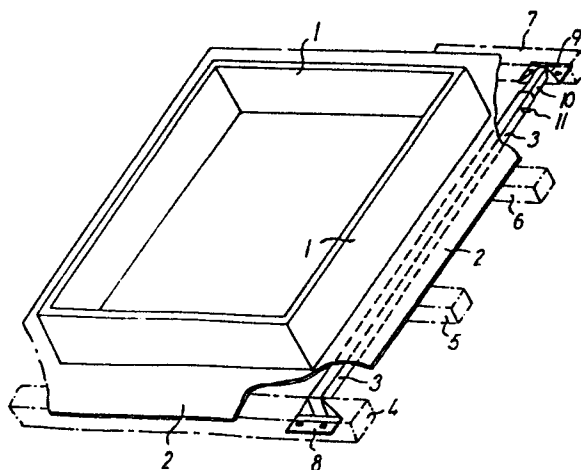
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54 Inclined roof window.

57 A conventional skylight for living rooms in attics, where the main frame (1) and an exterior flashing (2) are reinforced by fixed stiffening rails (3) at least along the sides extending parallel to the roof inclination. At least at the end facing upwards when mounting the window in the roof and preferably also at the downward facing end, each of said stiffening rails is telescopically connected with mounting fixtures (9, 8, resp.) which can be adjusted to and fixed in the roof laths of the roof structure.



A window for installation in an inclined roof and comprising a frame with a flashing.

5 Conventional skylights for living rooms in attics comprise a formstable frame of wood with separately manufactured covering rails and flashing members delivered with the window and finally mounted on the frame after its installation in the roof.

10 A reduction of the production and installation costs has been made possible through the improvement of the plastics technology, which now permits the manufacture of the frame and the flashing by moulding or pressing an appropriate, preferably fibre reinforced, plastics material in a casting or pressing mould. The
15 frame and flashing may then form an integral member or be formed so as to be easily assembled, e.g. by a snap connection, in the factory or at the site of installation. Usually, the frame member should then have a small wall thickness and, as case may be, a hollow
20 cross-section in order to entail, on one hand, a saving in consumption of the comparatively expensive material and, on the other hand, a reduction of the weight of the member. However, the member will then have a strength that is too feeble for it to be self-supporting and it is therefore reinforced with stiffening
25 rails at least along the sides extending parallel to the roof inclination after installation. Such rails are generally positioned in the area beneath the frame portion of the member and secured thereto and they
30 further serve to fasten the window in the roof structure and they are therefore ordinarily made from wood allowing the member to be nailed on or screwed into the roof laths.

35 This invention relates to such a window with stiffening rails and aims particularly at facilitating

the installation thereof in the roof.

More specifically, the invention relates to a window adapted to be installed in an inclined roof comprising a main frame of small wall thickness, preferably made from plastics material, and a flashing adapted to be sealingly secured to the covering of the roof, the frame and the flashing being stiffened with underlying rails at least along the sides parallel to the roof inclination which rails by means of mounting fixtures may further be used when fastening the window in the roof structure, e.g. to a roof lath therein. Such a window is according to the invention characterized in that the stiffening rails at least at the end facing upwards when mounting the window in the roof are in two parts telescopically connected with each other.

The distance between the laths in a roof may vary within certain limits, for instance dependent on the type of the roof covering and, generally, this cannot be taken into account when manufacturing the window. The same applies to the height of installation of the window in relation to the laths, i.e. the desired distance from the lower and top portion of the main frame to the adjacent lower roof lath and top roof lath, resp., and a pre-manufactured window in any standard size will therefore frequently require some work of adaptation at the site of installation, in particular a lengthening or shortening of the stiffening rails or displacement thereof in relation to the window member.

According to the present invention such work of adaptation is made superfluous because the stiffening rails, owing to the telescopically displaceable mounting fixtures, may easily be lengthened or shortened as required at the site of installation and, moreover, the rails proper as well as the mounting fixtures may be

inexpensively manufactured, with necessary strength, preferably by bending strip material, such as electroplated or otherwise non-corroding sheet metal.

5 Frequently, a definite, optimum distance reckoned from the lower portion of the main frame to the adjacent underlying roof lath may be counted on, and in that case no telescopically adjustable mounting fixture is needed at the lower end of the stiffening rails, or such a mounting fixture may already be fixed in the
10 desired position at the window factory.

When each stiffening rail is at either end provided with telescopically displaceable mounting fixtures, both of these fixtures may advantageously be lockable in the rails. If so, the window with the
15 hollow profiles may at first be "loosely" mounted by fastening the mounting fixtures to the individual roof laths and then displaced upwards or downwards to the desired position, following which the locking can be effected.

20 A simple embodiment of the window according to the invention whose frame is integral with the flashing is illustrated in a perspective view on the drawings and explained in detail in the following.

Only said integrated member of the window is
25 illustrated, comprising a frame member 1 and a substantially flat flashing flange 2 extending from the bottom edge of said frame member and carrying on its underside a pair of fixed stiffening rails 3 in the form of rectangular hollow profiles of which,
30 however, only one is shown. Said profiles extend in the height direction of the window and may, if desired, be positioned closer to or possibly directly beneath the lateral members of the main frame 1. They serve primarily to relieve the frame of bending stresses so
35 that it may be manufactured with a wall thickness of mainly the same size as that of the covering flange 2.

The frame member may be provided with mounting fixtures for any known type of sash, not illustrated.

The roof structure includes horizontal laths 4, 5, 6 and 7 the lower and the upper ones of which are continuous while the two remaining ones are interrupted at the window opening and possibly connected with the hollow profile 3 by means of mounting fixtures, not shown. At its lower end, the hollow profile is provided with a bracket 8 through which the hollow profile is secured to the lath 4, e.g. by a pair of screws which are screwed into the lath from below through a pair of holes in the bracket. The bracket may be formed integral with the hollow profile by means of suitable cuts and bendings therein.

Through a similar bracket 9 the hollow profile 3 is secured at its top end to the lath 7, but this latter bracket is mounted on a rod 10 which is initially telescopically displaceable within the hollow profile. After the bracket has been secured to the lath the rod 10 can be locked in the hollow profile, e.g. by inserting a transverse pin 11 into holes drilled at site. Also the bracket 9 including the rod 10 may be made from a non-corroding sheet material.

With the illustrated orientation of the angular brackets 8 and 9 the fixation to the laths 4 and 7 is easily effected from the underside of the roof, but the preliminary mounting of the window may be facilitated by placing the brackets oppositely so as to allow the angular webs parallel to the surface of the roof to rest on the upper sides of the laths. In this case the illustrated screw holes are, however, covered by the covering flange 2 when this is integral with the frame member 1 and in this case the holes may then instead be provided in the triangular webs perpendicular to the surface of the roof.

PATENT CLAIMS

1. A window for installation in an inclined roof and comprising a main frame (1) of small wall thickness, preferably made from plastics material, and a
5 flashing (2) adapted to be sealingly secured to the covering of the roof, the frame and the flashing being stiffened with underlying rails (3) at least along the sides parallel to the roof inclination, which rails by means of mounting fixtures (9) may further be used when
10 fastening the window in the roof structure, e.g. to a roof lath (7) therein, characterized in that the stiffening rails (3) at least at the end facing upwards when mounting the window in the roof are in two parts telescopically connected with each other.
- 15 2. A window as claimed in claim 1 and provided with telescopically displaceable mounting fixtures (8, 9) at either end of each stiffening rail (3), characterized in that the fixtures are lockable in the rails.
3. A window for installation in an inclined roof
20 and comprising a main frame (1) and a flashing (2) for sealing to the covering of the roof, the frame and/or the flashing being stiffened with underlying rails (3) at least along the sides parallel to the roof inclination, which rails by means of mounting fixtures (9) may further
25 be used when fastening the window in the roof structure, e.g. to a roof lath (7) therein, characterised in that the stiffening rails (3) at least at the end facing upwards when mounting the window in the roof are in two parts telescopically connected with each other.

4. A window according to claim 3 wherein each stiffening rail (3) has a portion at each of its ends, which portion is telescopically displaceable with respect to the remainder of the rail (3), carries a mounting fixture (8,9) and is lockable to the remainder of the rail.

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5. A window according to claim 4 wherein the main frame and/or the flashing are made from plastics material.



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
Y	DE-C1- 803 433 (A.H. Hawes) * Page 3, lines 8-15 * ---	1-4	E 04 D 13/02
Y	DE-A1-2 209 543 (F Melzer) * Page 4, lines 7-20 * ---	1,5	
Y	DE-B2-2 856 835 (U Fick) * Column 2, lines 35-44 * ---	1,3	
A	CH-A5- 644 657 (D.C. Steeb) * Page 4, right column, lines 27-31 ---	1-4	TECHNICAL FIELDS SEARCHED (Int. Cl.4) E 04 D E 04 B E 04 G E 06 B
A	US-A- 2 963 127 (G.D. Manville) * column 2, lines 30-72 column 3, lines 1-35 ---	1-4	
The present search report has been drawn up for all claims			
Place of search STOCKHOLM		Date of completion of the search 17-12-1986	Examiner JUVONEN V.
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			