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

(11) Publication number : **0 474 581 A1**

(12) **EUROPEAN PATENT APPLICATION**

(21) Application number : **91610066.2**

(51) Int. Cl.^{5} : **E06B 7/08**

(22) Date of filing : **19.08.91**

(30) Priority : **21.08.90 DK 1995/90**

(43) Date of publication of application :
11.03.92 Bulletin 92/11

(84) Designated Contracting States :
AT BE CH DE DK FR GB LI NL SE

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(54) **Ventilation louvre assembly.**

(57) In a ventilation louvre assembly with a number of horizontally arranged louvre blades (1) which at their ends are mounted in oppositely disposed vertical frame members (7), each of the vertical frame members (2) is constituted by a standard rail normally manufactured for use as a window frame member and having a groove for receiving a thermo pane externally defined by a stationary wall (3) of the profile rail and internally by a resilient glazing bead (12).

An angularly bent insert rail (13) is provided to be disposed in the groove with one part (14) abutting on said stationary wall (3) of the profiled rail, protruding hook members (16) with an upwardly facing opening (17) being provided on said one part for receiving and retaining a downwardly facing edge portion (15) at one lateral edge of each louvre blade (1). Each louvre blade (1) has at its opposite lateral edge an upwardly projecting edge portion (19) and is designed so that the distance between said two edge portions (15, 19) is a little larger than the width of the rail. Arresters (18) are provided in the groove for affixing the louvre blades (1) against release from the hook members (16).

EP 0 474 581 A1

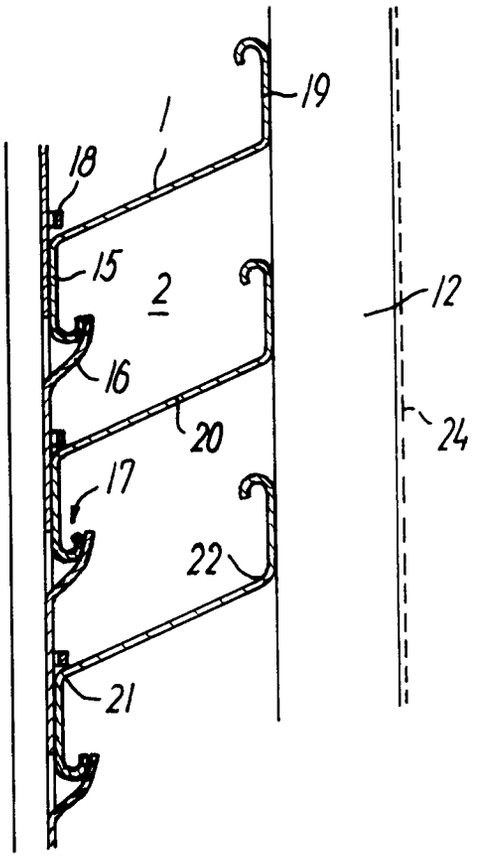

FIG. 2

The invention relates to a ventilation louvre assembly, in particular for installation together with a window, comprising a number of horizontally arranged louvre blades which at their ends are mounted in oppositely disposed vertical frame members.

In prior ventilation louvre assemblies of this type the vertical frame members are purpose-made and provided with means for fastening the ends of the louvre blades, or particular fasteners for the louvre blades are inserted in the vertical frame members in connection with the mounting. This involves in practice the inconvenience implicating either to keep in stock tailored frame members for such ventilation louvres that are used to a considerably smaller extent than traditional windows, or to carry out a comparatively time-consuming assembling work on the site of intstallation.

Starting from the fact that ventilation louvre assemblies of the above type are most frequently an integral part of fixed windows, the invention has for its object to create a substantially simpler and more rational design and installation of such louvre assemblies.

This is obtained according to the invention in that each of the vertical frame members is constituted by a profiled rail normally manufactured for use as a window frame member and having at its one side a groove normally provided for receiving a lateral edge of a thermo pane and which is externally defined by a stationary wall of the profiled rail and internally by a glazing strip made from a resilient material, in particular plastics, and that an insert rail bent angularly substantially in L-shape is designed to be arranged in said groove with one part of the L-shape abutting on said stationary wall of the profile rail member, punched, protruding hook members with an upwardly facing opening being provided on said one part for receiving and retaining a downwardly facing edge portion at one lateral edge of each louvre blade, each louvre blade having at its opposite lateral edge an upwardly projecting edge portion and being designed so that the distance between said two, substantially parallel edge portions is a little larger than the distance between the part of the insert rail engaging the stationary wall of the profile rail and the side of the glazing strip facing on to it, arresters for affixing the louvre blades against release from said hook members being disposed in the groove.

By means of said insert rail that is inserted throughout the length of each vertical frame member it is obtained that a standard window frame profile of said design without other modifications may be used as a frame member in the ventilation louvre assembly.

The insert rail per se is a comparatively cheap element obtained by punching out and bending substantially thin sheet metal.

Through the exploitation of the elastic resiliency of standard glazing strips for use in combination with such window frame profiles there is obtained a completely satisfactory retaining of the louvre blades.

Window frame profiles of the type that may be used in connection with the present invention are inter alia known from EP patent application No. 87114987.8 and are manufactured in large-scale production as standard goods in the form of extruded aluminium profiles.

According to the invention a particularly simple mounting of the ventilation louvre assembly is obtained in that the profile rails serving as vertical frame members have a substantially T-shaped cross-section, in which said stationary wall forming the external wall of said rail constitutes one half of the transverse branch of the T-shape while the stem of the T-shape in the vicinity of its free end has a countersunk notch with edge cutouts for receiving opposite edge beads on an elastically resilient part of the glazing strip, thereby allowing the glazing strip, after one edge bead has been inserted into the matching edge cutout in said groove, to be finally mounted, by pressing under snap engagement the other edge bead into the other edge cutout.

In view of the fact that the glazing strips associated with standard window frame profiles of the above type are frequently designed for the mounting of internal sealing strips a further development of the ventilation louvre assembly according to the invention is characterized in that a countersunk spline generally provided in the inner side of the glazing strip facing away from said groove for receiving a sealing strip serves to mount an insect screen which is secured in the spline by means of a retaining strip.

The invention will now be explained in detail in the following with reference to the drawings, in which

Fig. 1 is a horizontal sectional view of part of an embodiment of the ventilation louvre assembly according to the invention,

Fig. 2 is a section along the line II-II in Fig. 1, and

Fig. 3 is an enlarged section of an insert rail with mounting means for a louvre blade.

The horizontal sectional view in Fig. 1 only illustrates a single louvre blade 1 in an embodiment of the ventilation louvre assembly according to the invention which, however, includes a considerable number of such horizontally superposed louvre blades mounted at their ends in oppositely disposed vertical frame members.

Each of the vertical frame members is constituted by a standard profile rail 2 of extruded aluminium. In the illustrated embodiment the profile rail 2 has a substantially T-shaped cross-section in which one half of the transverse branch of the T-shape forms a stationary wall 3 constituting the outer delimitation of a groove 4 which in normal use of the frame serves to receive a gasket for sealing against an edge portion of a thermo pane. The stem 5 of the profile is in the vicinity of its free end formed with a countersunk notch

6 with edge incisions 7 and 8 for receiving oppositely positioned edge beads 9 and 10 on an elastically resilient part 11 of a glazing strip 12 made from an elastically resilient material, e.g. plastics, and which together with the stationary wall 3 defines a groove serving to receive, in normal use of the profile, the edge portion of a thermo pane.

The illustrated profile which in principle is known from the aforementioned EP patent application 87114987.8 entails that the glazing strip 12, after one edge bead 9 has been pressed into the mating edge incision 7 in groove 6, may be finally mounted by pressing the other edge bead 10 into the matching edge incision 8 under snap engagement.

In order that the illustrated standard profile 2 may be used as the vertical frame member of the ventilation louvre assembly according to the invention an insert rail 13 substantially of L-shaped cross-section is designed to be positioned with one end of the L-profile in engagement with the external stationary wall 3 of the profile rail 2.

In order to receive and retain a downwardly projecting edge portion 15 of the louvre blade 1 the portion 14 of the L-profile of the insert rail 13 facing the wall 3 is provided with punched-out, protruding hook members 16 with an upwardly facing opening 17. Above each of the hook members 16 the L-shaped insert rail has a likewise punched projection 18 to retain the downwardly projecting edge portion 15 of the louvre blade in hook member 16.

At the opposite lateral edge relative to the downwardly projecting edge portion 13, the louvre blade 1 has an upwardly projecting edge portion 19 mainly parallel to the edge portion 15.

The central section 20 of louvre blade 1 adjoins edge portions 15 and 19 at bending lines 21 and 22. Louvre blade 1 is further shaped so that the distance between edge portions 15 and 19 when unloaded is a little larger than the distance in the groove between insert rail 14 and glazing strip 12, thereby effecting upon mounting glazing strip 12 by snap engagement, as described above, a clamping of louvre blade 1 which is then retained in place at a well-defined predetermined angular position of the central section 20.

In view of the fact that there is provided in the inner side of the glazing strip 12 a countersunk spline 23 generally for receiving a sealing strip, said spline may in an embodiment of the ventilation louvre assembly according to the invention be used for mounting an insect screen 24 affixed in spline 23 by means of a retaining strip 25 acting further as sealing strip against an internal shutter 26 for covering up the light area of the ventilation louvre assembly. Shutter 26 may in a manner, not shown, be hingedly connected with one of the vertical frame members.

Claims

1. A ventilation louvre assembly, in particular for installation together with a window, comprising a number of horizontally arranged louvre blades (1) which at their ends are mounted in oppositely disposed vertical frame members, characterized in that each of the vertical frame members (2) is constituted by a profiled rail normally manufactured for use as a window frame member and having at its one side a groove normally provided for receiving a lateral edge of a thermo pane and which is externally defined by a stationary wall (3) of the profile rail and internally by a glazing strip (12) made from a resilient material, in particular plastics, and that an insert rail (13) bent angularly substantially in L-shape is designed to be arranged in said groove with one part (14) of the L-shape abutting on said stationary wall (3) of the profile rail member, punched, protruding hook members (16) with an upwardly facing opening (17) being provided on said one part for receiving and retaining a downwardly facing edge portion (15) at one lateral edge of each louvre blade (1), each louvre blade (1) having at its opposite lateral edge an upwardly projecting edge portion (19) and being designed so that the distance between said two, substantially parallel edge portions (15, 19) is a little larger than the distance between the part (14) of the insert rail (13) engaging the stationary wall (3) of the profile rail and the side of the glazing strip (12) facing on to it, arresters for affixing the louvre blades (1) against release from said hook members (16) being disposed in the groove.

2. A ventilation louvre assembly according to claim 1, characterized in that said arresters are constituted by protruding cams (18) on the insert rail (13) at a determined distance above each of its hook members (16) for affixing the bending line (21) between the downwardly projecting edge portion (15) and the central section (20) of the louvre blade (1) extending between said edge portions (15, 19).

3. A ventilation louvre assembly according to claim 1 or 2, characterized in that the profile rails serving as vertical frame members have a substantially T-shaped cross-section, in which said stationary wall (3) forming the external wall of eaid rail constitutes one half of the transverse branch of the T-shape while the stem of the T-shape in the vicinity of its free end has a countersunk notch (6) with edge cutouts (7, 8) for receiving opposite edge beads (9, 10) on an elastically resilient part (11) of the glazing strip (12), thereby allowing the glazing strip (12), after one edge bead (9) has been inserted into the match-

ing edge cutout (7) in said groove (6), to be finally mounted, by pressing under snap engagement the other edge bead (10) into the other edge cut-out (8).

4. A ventilation louvre assembly as claimed in claim 1, 2 or 3, characterized in that a countersunk spline (23) generally provided in the inner side of the glazing bead (12) facing away from said groove (4) for receiving a sealing strip (12) serves to mount an insect screen (24) which is secured in the spline (23) by means of a retaining strip (25).

5. A ventilation louvre assembly as claimed in claim 4, characterized in that said retaining strip (25) is made as a sealing strip against an internal shutter (26) of the ventilation louvre assembly.

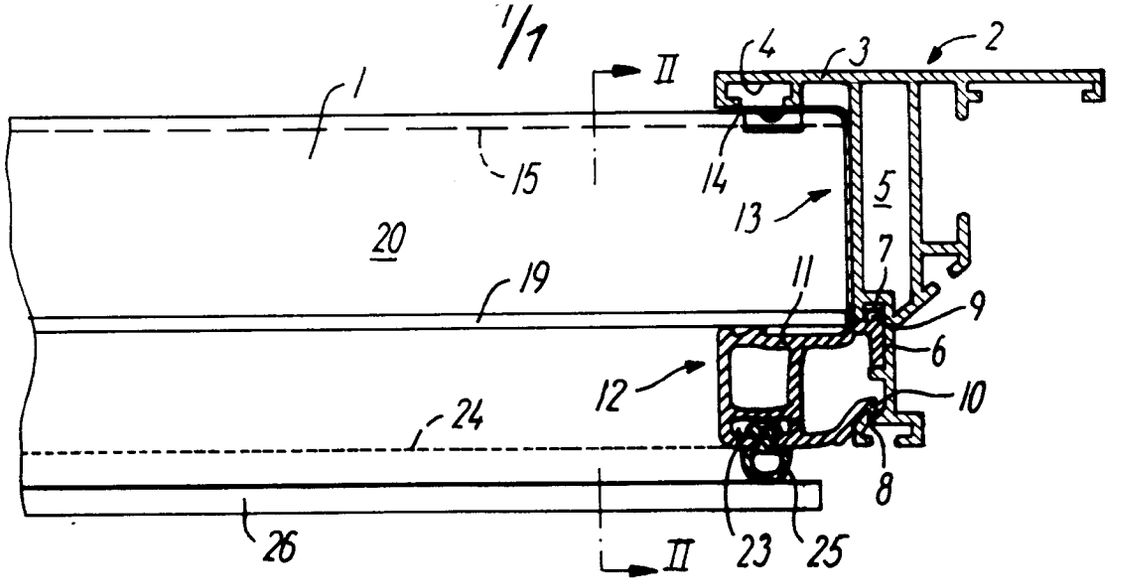

FIG. 1

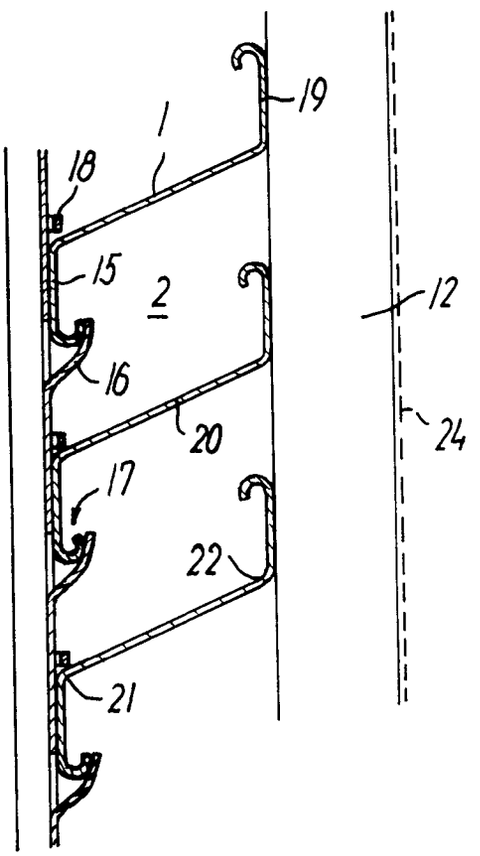

FIG. 2

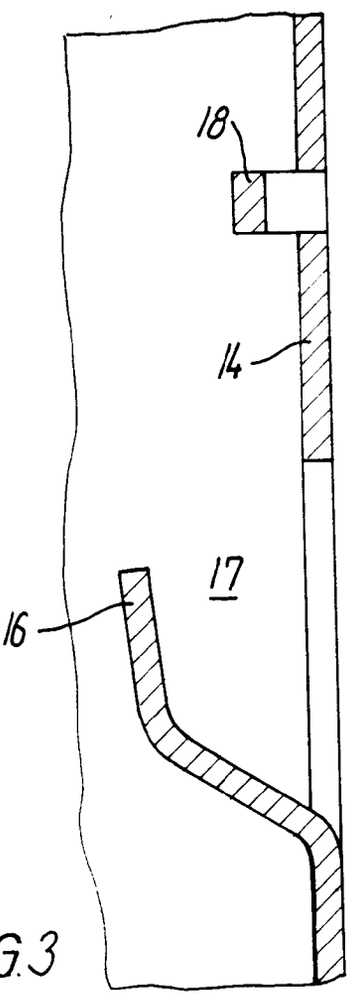

FIG. 3

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EUROPEAN SEARCH REPORT

Application number
EP 91610066.2

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.5)
Y	US-A-3 577 864 (L. SOMMERFELD) * see figure 2*	1	E 06 B 7/08
Y	US-A-3 943 679 (W.K. DISSINGER) * see figure 3*	1	
A	US-A-4 452 024 (STERRIKER ET AL) * see figure 2, detail 78*	1-5	
A	US-A-3 339 330 (G.W. MINDS, JR) * see details 20 and 22*	1-5	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

E 06 B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
STOCKHOLM	10-10-1991	JUVONEN V.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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