

PATENT SPECIFICATION

994,000

DRAWINGS ATTACHED.

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COMPLETE SPECIFICATION.

Improvements in or relating to Louvre Windows.

We, N. V. APPLETON PTY. LTD. a Company incorporated under the laws of the State of Queensland, Commonwealth of Australia, of 128 Gerler Road, Hendra, Brisbane, Queensland, Australia, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to the mounting of grille bars on louvre windows and is concerned more particularly with an arrangement whereby grille bars may be mounted in association with a louvre window so as to provide security against unauthorised entry through the window by breaking and/or removing the glass louvres, without hindering the normal operation of the louvre window.

It is an object of the invention to provide means whereby grille bars may be readily and securely mounted in association with the frames of a louvre window construction, and with this object in view the present invention is broadly characterized by the provision of means whereby grille bars may be mounted so as to extend parallel to the louvre blades and to move in conjunction therewith. According to a feature of the invention brackets may be mounted on the louvre clip bearing members or the louvre clips themselves, said brackets being adapted to receive the ends of grille bars.

Various features of the invention will be evident from the following description of particular forms thereof.

In this description reference is made to the accompanying drawings wherein:—

Figure 1 is a fragmentary view from the exterior of a louvre window provided with grille bars according to the invention,

Figure 2 is a view in horizontal section on the line 2—2 of Figure 1,

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Figure 3 is a view in vertical section on the line 3—3 of Figure 2,

Figure 4 is an exploded perspective view of parts of the louvre window and grille bar arrangement of Figures 1 to 3,

Figure 5 is a perspective view of a modified construction of bracket,

Figure 6 is a fragmentary horizontal sectional view similar to Figure 2 of a construction using the bracket of Figure 5,

Figure 7 is a perspective view of another modified construction of bracket,

Figure 8 is a fragmentary horizontal sectional view similar to Figure 2 of a construction using the bracket of Figure 7,

Figure 9 is a perspective view of a further modified construction of bracket,

Figure 10 is a fragmentary horizontal sectional view similar to Figure 2 of a construction using the bracket of Figure 9.

Figures 1 to 4 of the drawings illustrate a known construction of louvre window frame, which is shown for example in the specification of our patent Specification No. 726,345 in which louvre clips χ of channel-section are provided for receiving the ends of louvre blades 12 and the louvre clips 11 are mounted on mullions 13 by means of bearing members 14 which are inserted in circular bearing apertures 15 in the mullions 13 and fastened to the louvre clips χ . The bearing members 14 are provided with projections 16 which are inserted through apertures in the central web portion of the respective louvre clips 11 and after assembly these projections are upset as shown in Figure 2 thereby riveting the bearing members 14 to the clips 11.

In carrying out one form of the present invention utilizing this construction a bracket 17 is provided for use with each clip. The bracket 17 is joggled or upset and comprises a web 18 of rectangular shape

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with a rectangular flange 19 extending at right angles in one direction from one longitudinal edge and a larger flange 20 extending at right angles in the opposite direction from the other longitudinal edge. The smaller rectangular flange 19 is of a width slightly less than the spacing between the sides of the louvre clip 11 whereby the flange 19 can be engaged within the clip, and the flange 19 is provided with two apertures 21 of appropriate size and spacing to enable the projections 16 on the bearing member 14 to be inserted through them as well as through the corresponding apertures in the clip 11.

One flange of the clip 11 is provided with a slot 22 extending longitudinally thereof over a central portion of the clip. The slot 22 is normally provided so that the material 23 on the outer side thereof may be distorted inwardly to provide resilient means for the louvre blade 12. In assembling the bracket with the louvre clip the smaller flange 17 and the web 18 are inserted through the slot 22 prior to mounting the clip on the bearing member 14. After the bracket has been inserted, and the holes in the clip and the bracket have been aligned, the projections 16 of the bearing member are entered through the apertures of both members and the ends of the projections are riveted over. The bracket is thus held securely to the bearing member. The larger flange 20 of the bracket 17 which extends through the slot is provided with a circular aperture 24 for engaging one end of a grille bar 25 of circular cross-section, so that the grille bar extends parallel to the louvre blade 12 engaged by the clip. The grille bar is provided at each end with a screw 26 or other retaining member such as a pin or rivet, which prevents the grille bar from pulling through the aperture 24 after it has been installed.

Figures 5 and 6 of the drawing illustrate a modification of the invention wherein the grille bars 25 (only one being shown) are of square cross-section. In this case the aperture 24 in the bracket 17 is of square shape to fit the grille bar.

In another modified arrangement according to the invention shown in Figures 7 and 8 the portion 20 of the bracket 17 extending outwardly from the slot 22 in the louvre clip is bent so as to be parallel to the flanges of the clip 11, and instead of an aperture part of the portion 20 of the bracket is pressed or otherwise constructed so as to form a raised housing 27 into which the end of the grille bar may be inserted. The said housing 27 may be rounded as shown in Figure 7 or it may be of rectangular or other shape to suit the cross-sectional shape of the grille bar.

Figures 9 and 10 illustrate a further modi-

fication of the invention wherein the bracket 17 holding the grille bar 25 is fastened directly to the flange of the louvre clip 11 rather than to the louvre clip in conjunction with the bearing member 14. In this case the bracket comprises a central portion 28, forming a housing for receiving the end of the grille bar, with flanges 29 projecting in opposite directions and having apertures 30 whereby the bracket is riveted to the appropriate flange of the louvre clip. The housing 28 in this case is shown as rectangular in shape to suite a grille bar of square cross-section, but it may be rounded or of any other desired shape.

In another arrangement, not shown in the drawings the bracket may be fastened between the louvre clip and the associated bearing member, the projections of the bearing member being passed firstly through apertures in the bracket and then through apertures in the clip. As a further alternative the bracket may be directly fastened to the bearing member by means other than the projections which are provided on the bearing member for attaching the louvre clip.

WHAT WE CLAIM IS:—

1. A louvre window frame comprising a plurality of louvre clips for supporting louvre blades, characterized by the provision of means whereby grille bars may be mounted so as to extend parallel to the louvre blades and to move in conjunction with them.

2. A louvre window frame according to Claim 1 wherein the said means comprises brackets mounted on the louvre clips or associated parts, said brackets being adapted to receive the ends of the grille bars.

3. A louvre window frame according to Claim 2 in which the brackets are provided with flanges directed at right angles to the planes of the blades and are provided with apertures through which the ends of the grille bars are inserted.

4. A louvre window frame according to Claim 2 in which the brackets are shaped to form raised housings into which the ends of the grille bars are inserted.

5. A louvre window frame according to any one of Claims 2 to 4 wherein the louvre clips are mounted on bearing members having projections inserted through apertures in the louvre clips, characterized in that the brackets have apertures through which the said projections are inserted to fasten the brackets to the louvre clips.

6. A louvre window frame according to Claim 5 wherein the louvre clips are of channel section and each has a slot extending longitudinally in one flange, characterized in that the apertures for the projections are formed in flanges of the brackets which are inserted through the slots and engaged



characterized

with a rectangular flange 19 extending at right angles in one direction from one longitudinal edge and a larger flange 20 extending at right angles in the opposite direction from the other longitudinal edge. The smaller rectangular flange 19 is of a width slightly less than the spacing between the sides of the louvre clip 11 whereby the flange 19 can be engaged within the clip, and the flange 19 is provided with two apertures 21 of appropriate size and spacing to enable the projections 16 on the bearing member 14 to be inserted through them as well as through the corresponding apertures in the clip 11.

One flange of the clip 11 is provided with a slot 22 extending longitudinally thereof over a central portion of the clip. The slot 22 is normally provided so that the material 23 on the outer side thereof may be distorted inwardly to provide resilient means for the louvre blade 12. In assembling the bracket with the louvre clip the smaller flange 17 and the web 18 are inserted through the slot 22 prior to mounting the clip on the bearing member 14. After the bracket has been inserted, and the holes in the clip and the bracket have been aligned, the projections 16 of the bearing member are entered through the apertures of both members and the ends of the projections are riveted over. The bracket is thus held securely to the bearing member. The larger flange 20 of the bracket 17 which extends through the slot is provided with a circular aperture 24 for engaging one end of a grille bar 25 of circular cross-section, so that the grille bar extends parallel to the louvre blade 12 engaged by the clip. The grille bar is provided at each end with a screw 26 or other retaining member such as a pin or rivet, which prevents the grille bar from pulling through the aperture 24 after it has been installed.

Figures 5 and 6 of the drawing illustrate a modification of the invention wherein the grille bars 25 (only one being shown) are of square cross-section. In this case the aperture 24 in the bracket 17 is of square shape to fit the grille bar.

In another modified arrangement according to the invention shown in Figures 7 and 8 the portion 20 of the bracket 17 extending outwardly from the slot 22 in the louvre clip is bent so as to be parallel to the flanges of the clip 11, and instead of an aperture part of the portion 20 of the bracket is pressed or otherwise constructed so as to form a raised housing 27 into which the end of the grille bar may be inserted. The said housing 27 may be rounded as shown in Figure 7 or it may be of rectangular or other shape to suit the cross-sectional shape of the grille bar.

Figures 9 and 10 illustrate a further modi-

fication of the invention wherein the bracket 17 holding the grille bar 25 is fastened directly to the flange of the louvre clip 11 rather than to the louvre clip in conjunction with the bearing member 14. In this case the bracket comprises a central portion 28, forming a housing for receiving the end of the grille bar, with flanges 29 projecting in opposite directions and having apertures 30 whereby the bracket is riveted to the appropriate flange of the louvre clip. The housing 28 in this case is shown as rectangular in shape to suite a grille bar of square cross-section, but it may be rounded or of any other desired shape.

In another arrangement, not shown in the drawings the bracket may be fastened between the louvre clip and the associated bearing member, the projections of the bearing member being passed firstly through apertures in the bracket and then through apertures in the clip. As a further alternative the bracket may be directly fastened to the bearing member by means other than the projections which are provided on the bearing member for attaching the louvre clip.

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1. A louvre window frame comprising a plurality of louvre clips for supporting louvre blades, characterized by the provision of means whereby grille bars may be mounted so as to extend parallel to the louvre blades and to move in conjunction with them.

2. A louvre window frame according to Claim 1 wherein the said means comprises brackets mounted on the louvre clips or associated parts, said brackets being adapted to receive the ends of the grille bars.

3. A louvre window frame according to Claim 2 in which the brackets are provided with flanges directed at right angles to the planes of the blades and are provided with apertures through which the ends of the grille bars are inserted.

4. A louvre window frame according to Claim 2 in which the brackets are shaped to form raised housings into which the ends of the grille bars are inserted.

5. A louvre window frame according to any one of Claims 2 to 4 wherein the louvre clips are mounted on bearing members having projections inserted through apertures in the louvre clips, characterized in that the brackets have apertures through which the said projections are inserted to fasten the brackets to the louvre clips.

6. A louvre window frame according to Claim 5 wherein the louvre clips are of channel section and each has a slot extending longitudinally in one flange, characterized in that the apertures for the projections are formed in flanges of the brackets which are inserted through the slots and engaged



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against the interior faces of the webs of the louvre clips.

5 7. A louvre window frame substantially as hereinbefore described with reference to Figures 1 to 4 of the accompanying drawings.

10 8. A louvre window frame substantially as hereinbefore described with reference to Figures 5 and 6 of the accompanying drawings.

9. A louvre window frame substantially as hereinbefore described with reference to

Figures 7 and 8 of the accompanying drawings.

15 10. A louvre window frame substantially as hereinbefore described with reference to Figures 9 and 10 of the accompanying drawings.

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