

PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Improvements relating to Adjustable Louvre Type Windows

I, DAVID LEE, of 12 Swiss Club Road, Singapore 11, a naturalised British subject and a Singapore citizen, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

THIS INVENTION RELATES to adjustable louver type windows. In such windows there are usually a plurality of superposed glass window louvres each of which is pivotally supported at each end about a central axis. Further, these window louvres usually have their pivotal axes so spaced that, even when the louver windows are open it is not possible to obtain unauthorised entry into the room or building for which the window serves without breaking at least one of the window louvres. It is an object of the present invention to provide means for such windows which prevents or deters unauthorised entry through the window regardless as to whether the window louvres are open or closed, and whether or not the louver blades have been smashed or removed.

The invention consists in a jamb assembly for a louver window comprising a plurality of louver clips pivotally mounted on a jamb, each clip being formed with a channel-shaped opening adapted to retain the end of a louver and carrying a bar holder adapted to retain the end of a bar therein independently of the louver such that the bar extends in the same direction as the louver.

By "independently of the louver" is meant that a bar can be retained in the holder even when a louver is absent.

In the accompanying drawings:—

Fig. 1 is a general view in perspective of one form of the invention as applied by way of example to a louver type window having a plurality of superposed glass window louvres.

Fig. 2 is a cross section on the line 2—2

of Fig. 1 showing a pair of louver window assemblies with the glass omitted from the lower assembly.

Fig. 3 is a perspective view of a bar holder or securing means for use in carrying out the invention, whilst Figs. 4, 5 and 6 are respectively a plan, front elevation and end elevation of such bar holder. Referring to the drawings, the window frame comprises a pair of vertical jamb assemblies each comprising a jamb or side frame member *a* formed from metal of channel shape in cross-section and secured at opposite sides of the window opening and a plurality of metal clips *c* pivotally mounted ~~thereunder~~. The window louvres extend horizontally over the full width of the opening and comprise strips of glass *b* which are encased at their ends in the metal clips *c* which are of deep channel form. The glass is slid into each clip against the pressure of inwardly pressed resilient portions *d* of one of the flanges of the channel, the ends of the upper and lower edges of the glass being engaged by flanges *e* formed on the clips *c*. The resilient portions *d* are clearly shown in the lower window assembly of Fig. 2, the latter also showing a portion *c'* of one of the flanges of the clip *c* bent to a position permitting insertion of the glass after which the portion *c'* is pressed into the position shown in the upper window assembly.

Any desired number of window louvres may be provided, four being shown in Fig. 1, and each is pivotally mounted at its ends between the vertical jambs *a* for movement between open and closed positions. The pivotal mountings for the louvres are so spaced along the vertical jambs that, although the window louvres may be open, the distance *x*, Fig. 1, between the mountings is insufficient to permit the passage of any unauthorised person through the gap between adjacent window louvres. The pivotal mounting for each



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louvre comprises a metal plate *f* of circular form securely fixed, as for example by riveting *g*, to the centre of the metal clip *c* encasing each end of the louvre, and this plate is
 5 located in a circular recess or opening *h* in the adjacent vertical jamb *a* of the window frame with the outer surfaces of the plate and jamb substantially flush. By this means the circular recesses or opening *h* in the vertical
 10 jambs form bearings for rotation therein of the circular plates *f* at the ends of the louvres and thus permit pivoting of the louvres between the vertical jambs.

Formed in one with each circular pivot plate *f* at each end of the window louvre is a bar holder or securing member, see particularly Figs. 3 to 6, and for this purpose the pivot plate *f* has extending from a portion of its circumference a projecting flange member *i*.
 20 This flange is of angular form of which one leg *i*¹ extending substantially at right angles from the pivot plate and the second leg *i*² is turned outwardly at right angles to the first leg. From this second leg of the flange *i* there extends at right angles thereto a plate member *j* which lies over and parallel to the glass *b* of the window louvre and is spaced from the glass. At a suitable distance in its length this plate member is turned through
 30 a right angle inwardly towards the glass of the window louvre to form an end portion *j*¹ of the bar holder, and this end portion is again turned through a right angle to form a return portion *j*² extending for a suitable distance parallel and adjacent to the window
 35 louvre. By this formation there is provided a bar holder or bar securing member which is to accommodate the end of a bar *k* of, for example as shown, square shape in cross-section, the bar passing through a correspondingly shaped slot *m* formed in the end portion *j*¹ of the bar holder. The bar *k* extends across the window louvres and its ends are positioned in the bar holder at each end of the
 40 louvre during assembly of the latter between the vertical jambs of the window frame.

The bar holders and the bar are formed from steel or like strong material, and are dimensioned so as to provide a construction
 50 which will resist breakage by force.

From the above it will be appreciated that the bar holder and bar assembly provided

for each louvre prevents or deters attempted unauthorised entry into the room or building through the window by breaking or removal of the glass louvres.

WHAT WE CLAIM IS:—

1. A jamb assembly for a louvre window comprising a plurality of louvre clips pivotally mounted on a jamb, each clip being formed with a channel-shaped opening adapted to retain the end of a louvre and carrying a bar holder adapted to retain the end of a bar therein independently of the louvre such that the bar extends in the same direction as the louvre.
2. A jamb assembly as claimed in claim 1 wherein each clip comprises a generally channel-shaped member defining said opening, to which member the bar holder is attached.
3. A jamb assembly as claimed in claim 2 wherein each bar holder is formed integrally with a plate by which the clip is pivotted to the jamb.
4. A jamb assembly as claimed in claim 3 wherein the plate is circular and is retained in a circular recess formed in the jamb.
5. A jamb assembly as claimed in any of the preceding claims wherein each bar holder is of box-like construction having a hole on the same side of the clip as said opening, through which hole the end of a bar can be passed.
6. A jamb assembly as claimed in any of the preceding claims wherein the bar holder has a hole for retaining the end of a bar which hole is centrally disposed with respect to the longitudinal extent of said opening.
7. A louvre window construction including a pair of spaced jamb assemblies as claimed in any of the preceding claims, each bar holder of one assembly retaining one end of a bar the opposite end of which is retained in a bar holder of the other assembly and each clip of one assembly retaining one end of a louvre the other end of which is retained in a clip of the other assembly.
8. Jamb assemblies and louvre window constructions substantially as herein described with reference to the accompanying drawings.

MARKS & CLERK,
 Chartered Patent Agents,
 Agents for the Applicant(s).

louvre comprises a metal plate *f* of circular form securely fixed, as for example by riveting *g*, to the centre of the metal clip *c* encasing each end of the louvre, and this plate is located in a circular recess or opening *h* in the adjacent vertical jamb *a* of the window frame with the outer surfaces of the plate and jamb substantially flush. By this means the circular recesses or opening *h* in the vertical jambs form bearings for rotation therein of the circular plates *f* at the ends of the louvres and thus permit pivoting of the louvres between the vertical jambs.

Formed in one with each circular pivot plate *f* at each end of the window louvre is a bar holder or securing member, see particularly Figs. 3 to 6, and for this purpose the pivot plate *f* has extending from a portion of its circumference a projecting flange member *i*. This flange is of angular form of which one leg *i'* extending substantially at right angles from the pivot plate and the second leg *i''* is turned outwardly at right angles to the first leg. From this second leg of the flange *i* there extends at right angles thereto a plate member *j* which lies over and parallel to the glass *b* of the window louvre and is spaced from the glass. At a suitable distance in its length this plate member is turned through a right angle inwardly towards the glass of the window louvre to form an end portion *j'* of the bar holder, and this end portion is again turned through a right angle to form a return portion *j''* extending for a suitable distance parallel and adjacent to the window louvre. By this formation there is provided a bar holder or bar securing member which is to accommodate the end of a bar *k* of, for example as shown, square shape in cross-section, the bar passing through a correspondingly shaped slot *m* formed in the end portion *j'* of the bar holder. The bar *k* extends across the window louvres and its ends are positioned in the bar holder at each end of the louvre during assembly of the latter between the vertical jambs of the window frame.

The bar holders and the bar are formed from steel or like strong material, and are dimensioned so as to provide a construction which will resist breakage by force.

From the above it will be appreciated that the bar holder and bar assembly provided

for each louvre prevents or deters attempted unauthorised entry into the room or building through the window by breaking or removal of the glass louvres.

WHAT WE CLAIM IS:—

1. A jamb assembly for a louvre window comprising a plurality of louvre clips pivotally mounted on a jamb, each clip being formed with a channel-shaped opening adapted to retain the end of a louvre and carrying a bar holder adapted to retain the end of a bar therein independently of the louvre such that the bar extends in the same direction as the louvre.

2. A jamb assembly as claimed in claim 1 wherein each clip comprises a generally channel-shaped member defining said opening, to which member the bar holder is attached.

3. A jamb assembly as claimed in claim 2 wherein each bar holder is formed integrally with a plate by which the clip is pivoted to the jamb.

4. A jamb assembly as claimed in claim 3 wherein the plate is circular and is retained in a circular recess formed in the jamb.

5. A jamb assembly as claimed in any of the preceding claims wherein each bar holder is of box-like construction having a hole on the same side of the clip as said opening, through which hole the end of a bar can be passed.

6. A jamb assembly as claimed in any of the preceding claims wherein the bar holder has a hole for retaining the end of a bar which hole is centrally disposed with respect to the longitudinal extent of said opening.

7. A louvre window construction including a pair of spaced jamb assemblies as claimed in any of the preceding claims, each bar holder of one assembly retaining one end of a bar the opposite end of which is retained in a bar holder of the other assembly and each clip of one assembly retaining one end of a louvre the other end of which is retained in a clip of the other assembly.

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