June 16, 1959 H. R. PAINE 2,890,503

SEALING MEANS FOR ADJUSTABLE LOUVRES

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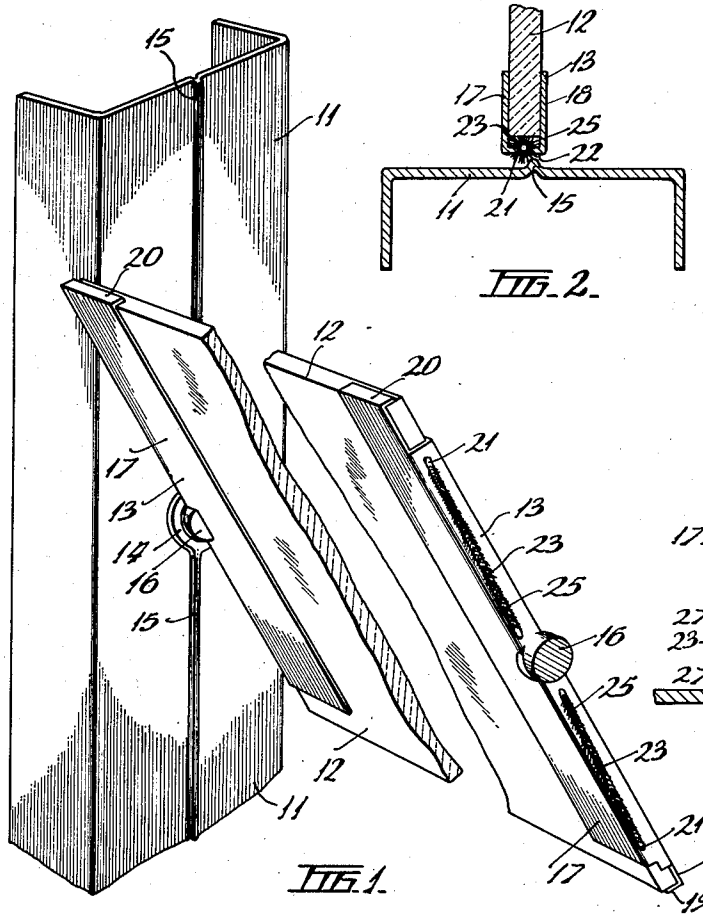


FIG. 1.

FIG. 2.

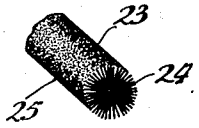


FIG. 3.

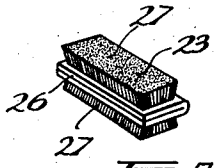


FIG. 4.

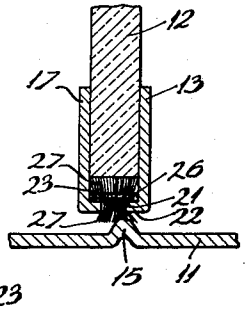


FIG. 5.

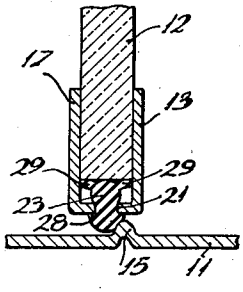


FIG. 6.

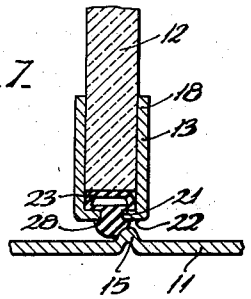


FIG. 7.

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SEALING MEANS FOR ADJUSTABLE LOUVRES

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5 Claims. (Cl. 20—63)

This invention relates to improvements in and connected with adjustable louvres.

In adjustable louvres having jambs or mullions to which louvre clips for engaging the ends of louvre blades are pivotally attached, wind driven rain may sometimes penetrate, and it is desirable to employ weather proofing means to reduce the ingress of moisture as far as possible. One form of weather proofing which has been found to be generally satisfactory is that which is described in the specification of our Australian Patent No. 157,060. In this prior construction each jamb or mullion is formed with longitudinal weather beads between pivots, and each channelled louvre clip pivoted to the mullion or jamb is formed with weather beads such that when the clip is closed, one of its weather beads lies behind, and the other in front of, a weather bead on the mullion or jamb.

It has been found that although this prior construction is effective in preventing ingress of moisture between the clips and the jambs or mullions, a certain amount of moisture may still penetrate the louvre assembly by passing between the blades and the clips which engage them.

The object of the present invention is to provide for the elimination as far as possible of moisture penetration through a closed louvre assembly and with this object in view the present invention is broadly characterised in that the clips of an adjustable louvre assembly are adapted to receive compressible and resilient members so as to be engaged between the ends of the louvre blades and the walls of the clips, and in that the clips are apertured to permit said members to protrude and form weather sealing means to engage the weather beads on the mullions or jambs.

Other objects and 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 perspective view of a mullion and one louvre blade and clips, the nearer mullion being removed for clarity of illustration and the louvre blade being partly open,

Figure 2 is a transverse sectional view through the mullion and one louvre clip and blade, the blade being closed,

Figure 3 is a perspective view showing a portion of a sealing member,

Figure 4 is a perspective view showing a portion of a modified form of sealing member,

Figure 5 is a view similar to Figure 2 on a somewhat larger scale showing the sealing member of Figure 4 in position, and

Figures 6 and 7 are views similar to Figure 5 showing further modified constructions of sealing member.

Referring to Figures 1 and 2 of the drawings we provide a panel of louvres including a pair of mullions or jambs and a plurality of glass louvre blades. Only one mullion **11** is shown in the drawings the other mullion being removed to show the adjacent clip, and only one louvre blade **12** and two louvre clips **13** are shown, the others being all similar. Each mullion **11** is a channel-shaped member having embossed pivot bearings **14** between and beyond which extend longitudinal weather beads **15**. The weather beads **15** are formed by rolling a straight continuous ridge which extends through the centres of the pivot bearings **14** to the ends of the mullion in a similar manner to that described in the said specification No. 157,060.

Each of the pivot bearings rotatably supports a pivot **16** to which a louvre clip **13** is secured. Each louvre clip is made of sheet metal and is in the form of a fairly deep channel adapted to engage one end of a louvre blade **12**. A lower part of the rear web **17** of each clip, and an upper part of the front web **18** of each clip, are cut away so that adjacent blades may engage in surface contact with each other, and the lower end **19** of the front web **18** of each clip is bent rearwardly at a right angle to provide a support for the blade. The upper part of the rear web has a forwardly projecting flange **20** and is capable of being bent rearwardly to permit insertion of the blade and of being bent forwardly again to retain the blade in position.

In accordance with the invention each clip **13** is provided with slotted apertures **21** in the end faces **22**. The apertures **21** are parallel to each other and slightly inclined to the front and rear webs **18** and **17** so that when the louvre blades are fully closed, in which condition the blades are slightly inclined from a vertical position, assuming the mullions to be vertical, the aperture **21** above each pivot **16** is parallel to the adjacent weather bead **15** and directly behind it while the aperture **21** below each pivot **16** is parallel to the adjacent weather bead **15** and directly in front of it.

Each clip **13** is provided with two resilient members **23** which are located in the interior of the clips, between the end faces **22** and the ends of the blades and which protrude through the apertures **21**. The members **23** illustrated in Figures 1, 2 and 3 are composed of a central core **24** having a pile of fibres **25** of nylon or other suitable material radiating out therefrom. The bulk of the member fills the space between the end face **22** and the end of the blade **12** while those fibres **25** which protrude form a weather bead which engages with the weather bead **15** as indicated in Figure 2 when the blade is fully closed. Thus the resilient members **23** provide for sealing the space between the clips and the mullions against ingress of moisture and they also provide a seal to prevent or minimise the ingress of moisture between the clips and the louvre blades which they engage.

Figures 4 and 5 of the drawings show a slight modification wherein the resilient members **23** comprise suitable lengths of pile strip comprising a fabric tape **26** with fibres **27** of nylon or other suitable material, the tape being folded over so that the fibres **27** project from both sides. With such members the fibres **27** at one side bear against the edge of the louvre blade while some or all of them at the other side project through the apertures **21** and engage the weather bead **15** when the blade is closed.

The resilient members **23** of Figures 1 to 3 and Figures 4 and 5 may be formed of a single piece of pile strip which extends from one of the apertures **21** behind the pivot **16** to the other aperture **21**.

Figures 6 and 7 show further modifications wherein the members **23** comprise lengths of extruded or moulded resilient material such as rubber, polyvinyl chloride, or other suitable material. In each of these constructions the protruding section of the member **23** has flanges **28** which engage against the edges of the apertures **21**.

In Figure 6 the member **23** has ribs **29** which engage the end of the blade while in Figure 7 the member **23** is hollow and is flattened somewhat by the blade.

The invention has been described with reference to louvres in which the clips are pivoted intermediate of their ends but it is also applicable to those in which the clips are pivoted at their ends or about points out of the plane of the blade which they carry. In such cases only one aperture and one resilient member may be needed for each clip and the mullion weather beads may be displaced from the line running through the centres of the pivots.

I claim:

1. In a louvre window assembly, the combination of a mullion having a ridge thereon, a plurality of clips pivotally mounted on said mullion, each clip having an elongated aperture therein on the side toward said mullion, a compressible and resilient weather strip in each clip projecting through said aperture toward said mullion for engagement with said ridge, and louvres clipped in each clip and fitted against said weather strip.

2. The combination as claimed in claim 1 in which said ridge is aligned with the pivotal mountings of said clips and said apertures are inclined to the plane of said louvres, whereby when the louvres are fully closed the apertures are parallel to and adjacent said ridge.

3. The combination as claimed in claim 1 in which said weather strip comprises a central core having a pile of fibers radiating therefrom, said core being in each of said clips with a portion of said fibers projecting through said apertures.

4. The combination as claimed in claim 1 in which said weather strip is a double-sided pile strip comprising a tape having fibers projecting from each side thereof, said tape being positioned within each of said clips with the fibers on one side thereof projecting through said apertures.

5. The combination as claimed in claim 1 in which each of said weather strips is a length of formed resilient material, a portion of which projects through said apertures.

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