Nov. 8, 1932. D. A. LOBELL 1,887,415

CASEMENT WINDOW

Filed Oct. 23, 1931

Fig. 1.

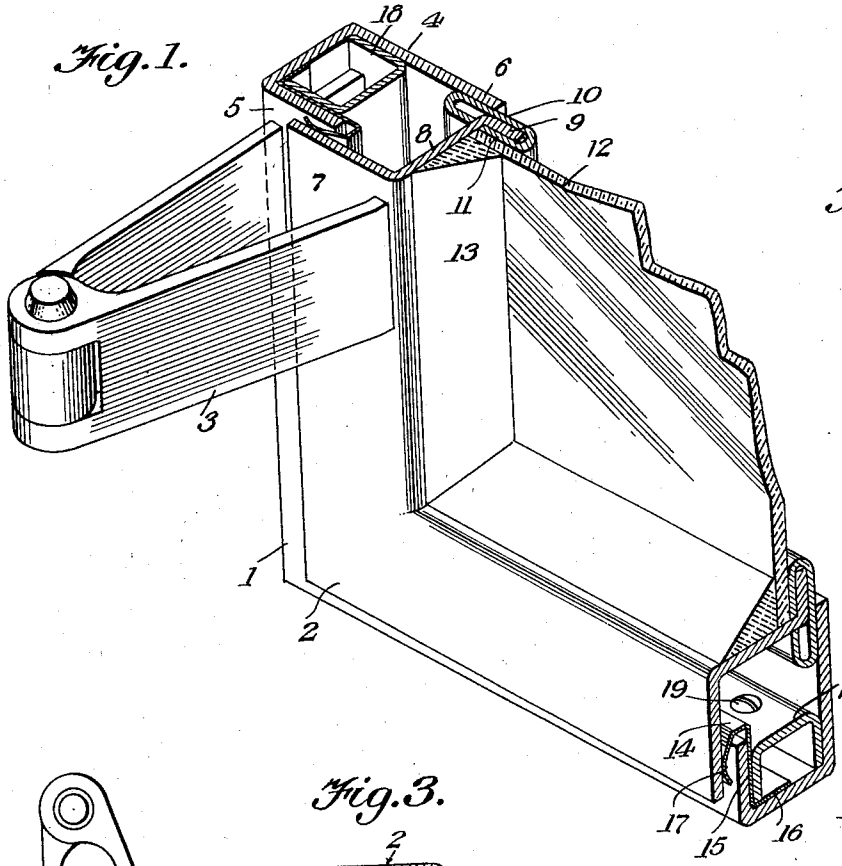


Fig. 4.

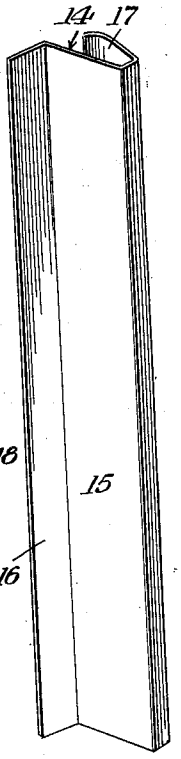


Fig. 3.

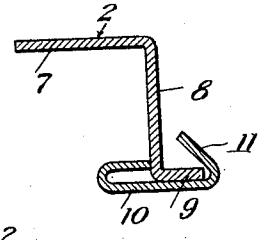


Fig. 2.

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UNITED STATES PATENT OFFICE

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CASEMENT WINDOW

Application filed October 23, 1931. Serial No. 570,701.

This invention relates to casement windows of metallic construction and has for the primary object, the provision of a device of the above stated character which is so constructed as to prevent the entrance of air and weather elements when in a closed position by establishing inner and outer seals between the window frame and the sash.

Another object of this invention is the provision of a window frame and sash frame both constructed of channeled material so that when brought into engagement an inner seal against weather elements is provided and means being provided on the window frame to establish an outer seal and capable of yielding under pressure to permit the window sash to assume a fully closed position without binding or undue strain thereon.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a fragmentary perspective view illustrating the casement window constructed in accordance with my invention.

Figure 2 is a sectional view illustrating the same.

Figure 3 is a fragmentary sectional view illustrating the means of forming the inner seal.

Figure 4 is a fragmentary perspective view illustrating a weather strip carried by the window frame and engageable with the window sash when in a closed position to form an outer seal.

Referring in detail to the drawing, the numeral 1 indicates a window frame of the casement type having associated therewith a window sash 2 adapted to swing relative to the frame on hinges 3 for the purpose of opening and closing the window. The frame 1 is of channel iron construction providing inner and outer walls 4 and 5 and by referring to Figure 1 it will be noted that the inner wall 4 projects beyond the free edge of the outer wall 5 to form a seat 6 for the window sash 2 to engage when in a closed position and thereby establish an inner seal against weather elements.

The window sash 2 is constructed from angle iron providing walls 7 and 8. The hinges 3 are suitably connected to the walls 5 and 7 and the wall 8 of the window sash is bent angularly to form an attaching flange 9. A sealing element 10 is mounted on the flange 9 and projects beyond the opposite faces of the wall 8 so as to contact with one of the faces of the wall 4 or the seat 6 when the window sash is in a closed position. The sealing element 10 is bent upon itself to receive the flange 9 with the free edges in abutting engagement with the wall 8 thereby firmly securing or sealing the element 10 in position on the window sash. The portion of the sealing element 10 overlying the outer face of the flange 9 forms an abutment 11 for the glass 12 to engage and the glass 12 is held in engagement therewith as shown at 13.

A sealing element 14 is arranged on the window frame and is engaged by the wall 7 of the window sash when said sash is in a closed position thereby establishing an outer seal against weather elements. The element 14 is constructed from a resilient yieldable metal and includes a portion 15 having formed upon one edge a retaining flange 16 and the opposite edge is formed with a yieldable portion 17. The element 14 when applied to the frame 1 provides the outer seal by having the yieldable portion 17 disposed over the wall 5 of the frame so that when the window sash is moved into a closed position, the wall 7 thereof bears against the yieldable portion 17 and slightly flexes the same, thereby preventing the entrance of weather elements between the walls 5 and 7. The portion 15 of the element 14 lies against the inner face of the wall 5 of the frame 1 and is held thereagainst by a filler or attaching element 18 of substantially U-shape in cross section and is secured within the frame 1 by bolts or like fasteners 19. By referring to Figure 1 it will be seen that the filler or attaching element 18 bears against the flange 16 of the element 14 thus firmly

anchoring the sealing element 14 against displacement and which will permit the portion 17 thereof to overlie the outer face of the wall 5 and to yield under pressure brought about by the wall 7 of the window sash engaging the same. In the construction of window casements of this character it is necessary that the wall 7 of the window sash be spaced a short distance from the wall 5 of the frame 1 when the window sash is in a closed position and to prevent weather elements from entering this space the sealing element 14 is provided, thus it will be seen that the casement is provided with inner and outer seals when the window sash is in a closed position thereby providing a positive prevention of the entrance of weather elements when the window sash is closed.

It is to be understood that in the manufacture of this device the sealing elements 10 and 14 are constructed of sections to conform to the top, bottom and sides of the frame.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of my invention, as claimed.

Having thus described my invention, what I claim is:

A casement window comprising a frame of channeled construction providing inner and outer walls, a sash hinged to the frame and of angle iron construction providing a pair of walls arranged at right angles to each other, one of said walls bent angularly to form a flange, a sealing element carried by the flange and projecting beyond opposite faces of the respective wall of said flange to engage the inner wall of the frame when the sash is in a closed position to provide an inner seal, a strip mounted in the frame and having an angularly disposed yieldable portion disposed over the outer wall of the frame to be engaged by the other wall of the sash when the latter is in a closed position to provide an outer seal, said strip bent to engage inner faces of angularly related walls of the frame and an attaching medium removably secured in the frame and of substantially U-shape in cross section engaging and forcing the strip against the inner faces of the angularly related walls of the frame.

In testimony whereof I affix my signature.

DONALD A. LOBELL.