Dec. 14, 1926. 1,610,470

J. A. RAPPAPORT

CASEMENT WINDOW AND THE LIKE

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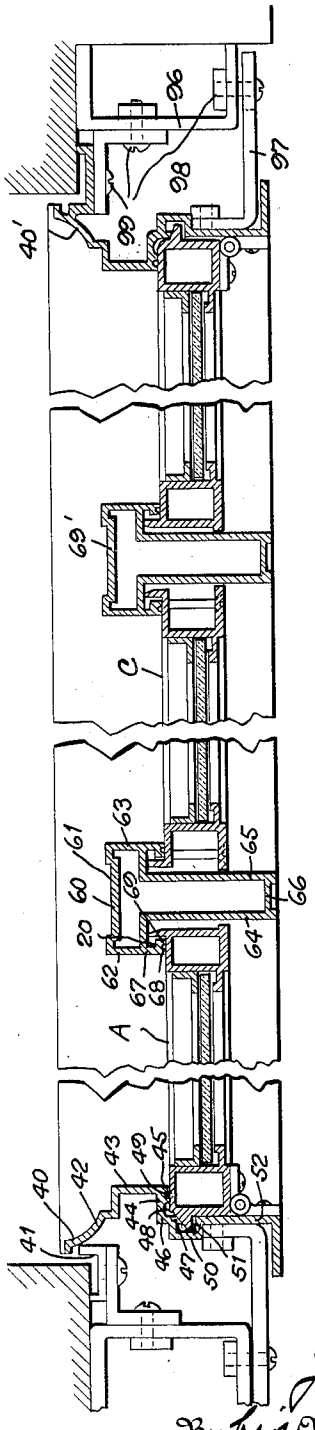


Fig. 1

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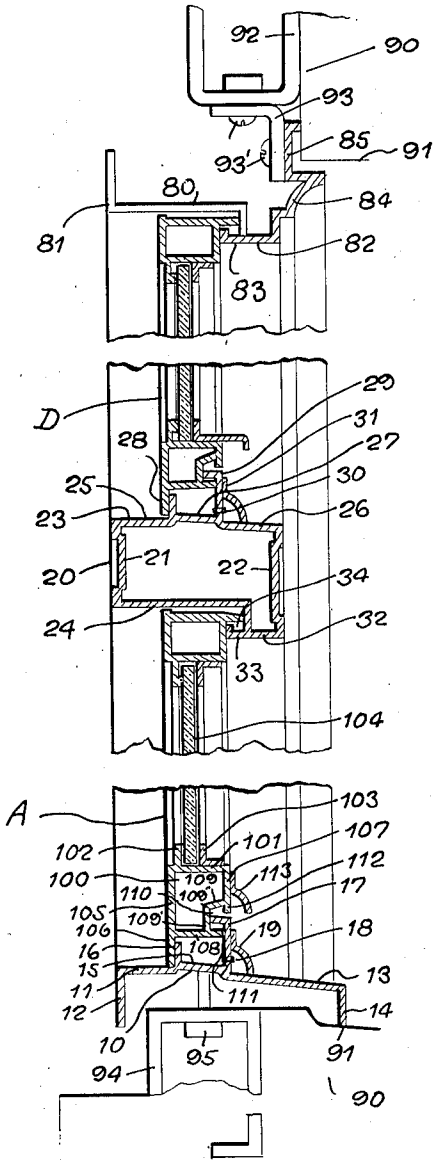
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Filed Oct. 26, 1922 2 Sheets-Sheet 2

Fig. 2



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Patented Dec. 14, 1926. 1,610,470

UNITED STATES PATENT OFFICE.

JACOB A. RAPPAPORT, OF BROOKLYN, NEW YORK, ASSIGNOR TO RELIANCE FIREPROOF DOOR COMPANY, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

CASEMENT WINDOW AND THE LIKE.

Application filed October 26, 1922. Serial No. 596,985.

My present invention relates to casement windows, particularly such windows as are hinged at the jambs of the window frames. My present invention aims to provide windows of the general character described which shall be simple in construction, readily and cheaply manufactured, which shall result in a saving of material, and which shall be more accurate in operation and more compact in construction than the windows hitherto constructed for the same purpose.

Another object of the present invention is to provide a casement window which shall present a very neat and attractive appearance recommending it to the attention of architects, contractors, builders, and the like. Still another object of the present invention is to provide a window of the general character specified above which shall be unusually weatherproof, without the necessity of employing cumbersome and expensive constructions for rendering it so.

While not limited thereto, my invention is capable of particularly successful application in connection with casement windows opening inwardly. While such windows are ordinarily harder to weatherproof than casement windows opening outwardly, they are much easier to clean and are much easier to manipulate into open and closed positions. At the same time, by means of the present invention, I may readily and securely weatherproof these windows without losing any of the advantages of the inwardly opening casement window.

In the accompanying specification I shall describe, and in the annexed drawing show, an illustrative embodiment of the present invention. It is, however, to be clearly understood that my invention is not limited to the embodiment thereof which is herein shown and described for purposes of illustration only.

Referring to the drawings, wherein I have illustrated the foregoing illustrative embodiment of the present invention:

Figure 1 is a view in horizontal section, partly broken away and partly in elevation, of said illustrative embodiment of the present invention; and

Figure 2 is a view in vertical section, also partly broken away and partly in elevation, of said illustrative embodiment of the present invention.

Referring to the drawing, wherein I have illustrated the aforesaid illustrative embodiment of the present invention, the same comprises a casement sash, generally indicated by reference character A, and a cooperating opposed casement sash, generally indicated by reference character B.

There is also provided an additional, intermediate, stationary section indicated by reference character C. Above each of the sections A, B and C, is a fixed or hinged transom, in this case shown as a hinged transom section, generally indicated by reference character D.

Since the hinged casement sashes A and B are substantially identical, it will be sufficient for the purposes of the present invention to describe but one of the sashes, such as the sash A. The hinged casement sash A comprises a metal sill 10 consisting of an inner portion 11 provided with a supporting flange 12, an outer inclined portion 13 provided with a flange 14, and an intermediate slightly inclined portion 15 provided with the inner flange 16 and the outer angular flange 17.

The inner portion 11 of the sill 10 is preferably substantially horizontal. At 18 I have shown the outer angular flange 17 provided with a plurality of spaced weep-holes of which but one is deemed necessary to be shown here. In order to prevent rain from being driven back into the window frame by the pressure of the wind, I provide each weep-hole with a short shield 19 protecting the same, the adjacent shields being spaced to provide openings for the free exit of water down the inclined portion 13 of the sill 10.

At 20 I have indicated a transom bar which serves at the same time as a sill for the transom sash D and as a head for the casement sashes A and B, and the stationary section C. The transom bar 20 comprises a hollow tubular member having the inner wall 21, the outer wall 22, the upper wall or sill 23, and the lower wall or head 24.

The upper wall or sill 23 of the transom bar 20 includes an inner section 25 which is substantially horizontal, an outer slightly inclined sill section 26, and an intermediate slightly inclined section 27 provided with the inner flange 28 and the outer flange 29. The parts 25, 26, 27, 28 and 29 are somewhat similar to the parts 11, 13, 15, 16 and 17, respectively, of the sill 10. The angular

flange 29 is provided with a plurality of weep-holes 30 which are protected by short shields 31 covering each weep-hole and spaced from each other to provide means for the exit of rain and the like, in the manner of the weep-holes 18 of the shields 19 of the sill 10.

The lower wall or head comprises a hollow extension 32 provided with the inwardly turned L-shaped flange 33 providing a space 34 for a purpose subsequently to be described in greater detail.

The jambs or stiles of the window being described have been indicated by reference characters 40 and 40'. Since the jambs or stiles 40 and 40' are substantially identical it will be sufficient for the purposes of the present description to describe merely one of these members, such as the jamb or stile 40. The member 40 comprises a lateral, outwardly disposed flange 41 cooperating with the concave jamb portion 42 and the channeled member 43.

The inner wall of the member 43, which is indicated by reference character 44, is provided with the ridges 45, 46 and 47 defining between them the channels 48 and 49. The ridge 47 has an inclined outer surface and is substantially wedge-shaped in cross-section, for a purpose to be subsequently described in greater detail. At 50 I have indicated a channelled portion providing a space 51, an extension of which, in the form of an L-shaped flange 52, completes the jamb 40.

Intermediate the casement sash A and the stationary section C, and also intermediate the casement section B and the stationary section C, are the mullions 60 and 60'. The mullions being substantially identical, it will be sufficient for the purposes of the present invention to describe but one of these members, as the member 60. The mullion 60 comprises a hollow tubular member of general T-shaped cross section, and consisting of an outer wall 61, the side walls 62 and 63, the transverse walls 64 and 65, and the inner wall 66. Each of the side walls 62 and 63 is provided with an extension in the form of a flanged portion 67 provided with the ridges 68 and 69 defining between them a channel 70.

The window frame is completed by the head member 80 comprising the inner angular flange member 81, the channeled portion 82 provided with the angular extension 83, the intermediate portion 84, and the upper channeled portion 85.

The various sections of the window frame, comprising the sill, 10, the jambs 40 and 40', the mullions 60 and 60', the transom bars 20, and the heads 80, are suitably positioned within the masonry 90 defining the opening 91 within which the window frame and the metal sashes are positioned. For this purpose I provide anchoring means at the head of the frame, in the form of the channeled member 92, the angle iron 93, and the fastening devices 93'. The members 92 and 93 may have the openings for the fastening devices 93' slotted, so as to permit the necessary adjustment of the anchoring means for properly positioning the head of the window frame.

Adjacent the sill 10, the anchoring means comprises a channeled member 94 and the adjustable fastening means 95. Adjacent the jambs 40 and 40', the anchoring means comprises a channeled member 96, the angle irons 97 and 98, together with the fastening means 99. The fastening means 95 and 99, as in the case of the fastening means 93', may be adjustably positioned with respect to the respective members of the anchoring means, as by slotting such member for the reception of the fastening means in order to enable the fastening means to be properly adjusted and suitably positioned with respect to the window frames within the masonry of the structure to which the frames and the associated sashes are to be applied.

The casement sashes A and B being substantially identical, it will be sufficient for the purposes of the present invention to describe but one of these sashes, such as the sash A. The sash A comprises a bottom rail, in the form of a tubular member 100 comprising a top wall 101 provided with the L-shaped flange 102 cooperating with the outside glazing 103 for positioning a pane of glass 104.

The inner wall 105 of the member 100 has the downwardly extending flange 106 serving as an integral weather-strip. The outer wall 107 and the lower wall 108 cooperate to provide an angular indentation 109 providing a space 110. At 111 I have indicated an outwardly extending flange forming a continuation of the lower wall 108. At 112 I have indicated a downwardly extending flange portion forming a continuation of the outer wall 107. The indentation 109 itself is formed by the portions 109' and 109''. At 113 I have indicated a drip in the form of a shield attached to the outer wall 107 of the bottom rail 100 and continuing, as desired, the full width of the casement sash A.

The manner of using the foregoing construction and the advantages of the same in use will be apparent from the foregoing description. The window described above is simple in construction, readily and cheaply manufactured, with a considerable saving in labor and material, and is very accurate in operation and compact in construction. This window at the same time presents a very neat and attractive appearance, recommending it to the attention of architects, builders, contractors and the like. This window is exceptionally waterproof and

weatherproof without the employment of the cumbersome and expensive devices hitherto utilized for this purpose. The casement window described above, opening inwardly, as it does, is much easier to clean and to manipulate into open and closed positions than the windows hitherto employed for similar purposes. At the same time, by reason of the construction employed, this window is exceptionally weatherproof, although it is of the inwardly opening casement window type of construction.

What I claim is:

1. In a metal window frame for casement windows and the like, a jamb comprising inner, intermediate and outer portions, said intermediate portion providing an angular recessed portion provided with an intermediate projection acting as the bearing surface for the sash of the window, said intermediate portion being further recessed to accommodate an extension on said window sash.

2. In a metal window frame for casement windows and the like, a jamb comprising intermediate and outer portions, said intermediate portion having a plurality of ridges one of which presents an inclined outer surface, said ridges and inclined outer surface defining between them a recess to snugly accommodate and encompass a portion of the side rail of a window sash.

3. In a metal window sash for casement windows and the like, a bottom rail having an indentation adjacent its lower outer edge, a transversely extending weather strip at the lower outer edge of said rail adjacent said indentation, a laterally downwardly extending weather strip at the upper outer edge of said indentation, and a laterally extending weather strip at the inner lower edge of the rail.

In testimony whereof, I have signed my name to this specification this 30th day of September 1922.

JACOB A. RAPPAPORT.