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STORM SASH MOUNTING

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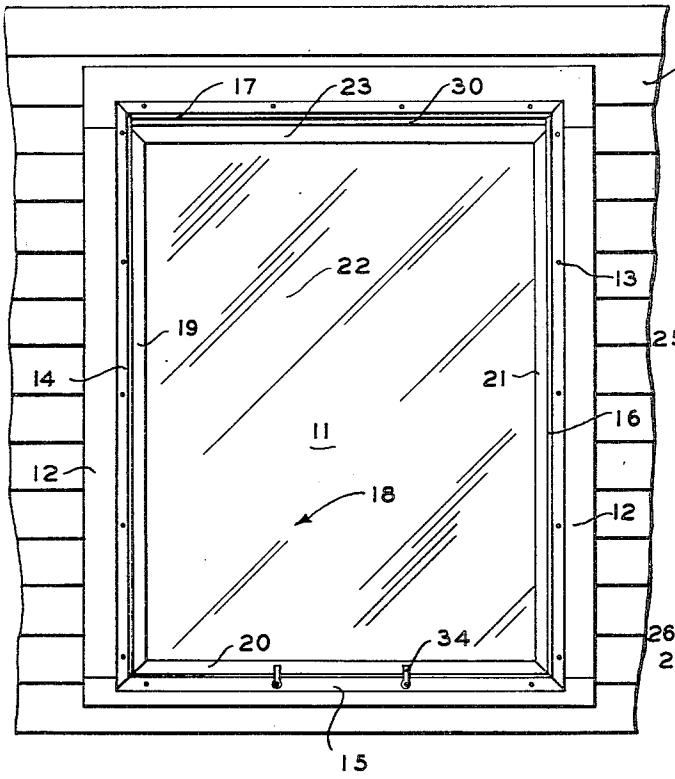


Fig. 1

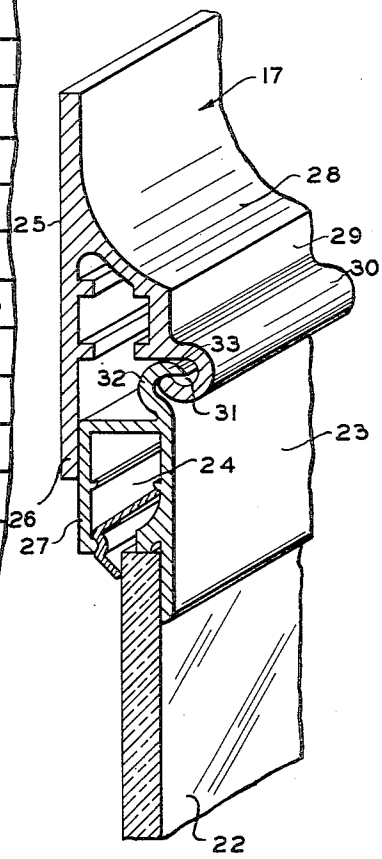


Fig. 2

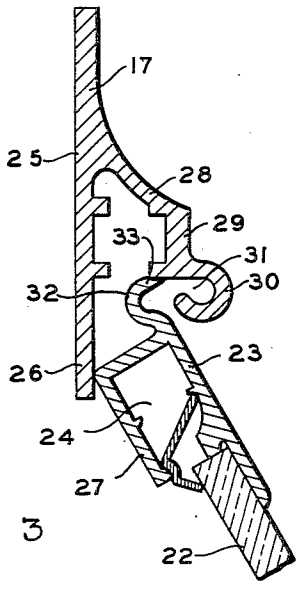


Fig. 3

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STORM SASH MOUNTING

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The present invention relates to storm sash, and more particularly to improved arrangements for removably mounting glazed storm sash or screen sash in a permanent frame device.

More specifically, the invention has reference to storm and screen sash of the single frame or porch enclosure type, as distinguished from the double hung type; and it is one of the specific objects of the invention to provide improvements in sash of this type whereby the same may be quickly and easily assembled and disassembled, permitting quick changeover from storm to screen sash, for example.

It is an object of the present invention to provide a sash assembly having interchangeable storm and screen sash members which is constructed generally of extruded aluminum components, and which is characterized by the provision of certain novel modified component sections having integral means for removably mounting the sash frames in the assembly.

A more specific object of the invention is the provision of a storm sash assembly having separable frame and sash parts constructed generally of extruded aluminum components wherein there are provided novel modified top rail components for both the frame and sash members whereby the sash members may be quickly and securely interlocked with and supported by the frame, while being adapted for easy removal therefrom.

Another object of the invention is the provision of a storm sash assembly having the above characteristics which is adapted for simple and economical manufacture and assembly.

The above and other objects and advantages of the invention will become apparent upon full consideration of the following detailed specification and accompanying drawing wherein there is disclosed a certain preferred embodiment of my invention.

In the drawing:

Figure 1 is a fragmentary front elevation of a house or other dwelling having mounted thereon a storm sash assembly of the type contemplated by my invention;

Figure 2 is a fragmentary section view, in perspective, of the window assembly of my invention; and

Figure 3 is a fragmentary section view of my window assembly, illustrating the manner of removing sash frames therefrom.

Referring now to the drawing, the reference numeral 10 designates the side wall of a conventional house or dwelling wherein there is provided a window opening 11 having framing members 12 thereabout in accordance with usual construction practices.

Secured to the framing members 12, by screws 13, for example, are extruded aluminum components 14—17, constituting the frame of my sash assembly. The lower and side rails 14—16 of the frame define an opening for receiving a glazed storm sash 18, or screen sash, not shown, as the case may be. While the upper frame rail 17, in addition to partially defining the sash receiving opening, further constitutes means for engaging and supporting the sash 18 in the manner desired.

In the illustrated embodiment of the invention the glazed sash section 18 is of generally conventional construction, having extruded aluminum side and lower rails 19—21 in the form of inwardly opening channels for receiving a glass pane 22. An upper rail 23 is also provided; and this latter rail has a downwardly opening channel portion 24 and additional means for engaging the upper frame rail 17 as will be further described.

Referring now to Figures 2 and 3, it will be observed that the upper frame rail 17 comprises a flat base portion 25 which forms at its lower edge portion a flange 26 which supports the rearward leg of flange portion 27 of the sash rail 23.

Extending outwardly and downwardly from the upper portion of the base 25 is a front flange supporting portion 28, from which depends an integral front flange portion 29. At the lower edge of the flange portion there is provided a rearwardly opening channel forming portion 30, defining a channel 31, the opening of which is below the flange portion 29. And in accordance with the teachings of the invention the channel forming portion 30 extend substantially throughout the width of the frame opening defined by members 14 and 16. This is illustrated in Figure 1.

Also in accordance with the teachings of the invention there is provided along the upper edge of the upper sash rail 24 an integral outwardly turned hook-like portion 32. In the preferred and illustrated embodiment of the invention the upper portion 33 of the hook 32 is more or less horizontal; and in the assembled structure, shown in Figure 2, upper portion 33 is received within the opening of the channel 31 and is supported upon the free end of the channel forming portion 30. And, as in the case of the channel forming portion 30, the hook 32 extends substantially throughout the width of the sash so that support is provided along the entire upper edge of the sash.

Referring now to Figure 3 in particular, I have illustrated the manner of assembling and disassembling sash members from the frame. In an assembly operation the upper end of the sash 18 is inserted within the sash receiving opening, the sash being tilted forwardly, toward the frame, as illustrated in Figure 3. The downwardly extending flange 26, as will be observed, forms an abutment against which the upper rear corner of the sash rail 23 engages; and after the sash is thus positioned it is moved upwardly until the upper portion 33 of the hook 32 engages an abutment formed by the lower end of the front flange portion 29. At this time the sash 18 is properly aligned along its entire top edge, and the assembly is completed by merely swinging the lower end of the sash inwardly or rearwardly, toward the frame. The hook 32 is thus caused to move forwardly into the channel 31 so that the sash and frame are securely interlocked; and it will be noted in Figure 2 that the downwardly extending rear flange 26 prevents disengagement of the interlocked parts except by tilting the sash member 18, the entire disassembly procedure being substantially the reverse of the assembly procedure.

To retain the lower end of the sash 18 in position after assembly thereof into the frame structure suitable retractible stops 34 may be provided along the lower frame rail 15 and/or side rails 14 and 16.

It should now be apparent that I have accomplished the objects initially set forth, that I have provided a storm window assembly of improved and substantially simplified construction which may be quickly and easily assembled and disassembled to exchange glazed and screen sash members, for example, and which may be economi-

cally manufactured and easily installed, all in keeping with the preferred policies of the art.

Perhaps the most important feature of my invention resides in the provision of modified top frame and sash rails of integral extruded construction having continuous interlocking channel and hook portions cooperating with rear flange portions to permit easy assembly of the sash into the frame and thereafter maintaining the same in firmly interlocked relation. The entire assembly operation may be completed without tools of any kind and by persons having no substantial skill or mechanical aptitude.

It should be understood, however, that the embodiment herein specifically illustrated and described is intended to be illustrative only, and reference should be had to the appended claims in determining the full scope of the invention.

I claim:

1. In a storm window assembly for building structures of the type having a frame of extruded rail sections and a removable sash having extruded rail members; the improvement in said assembly comprising a modified top rail section and member for said frame and sash respectively, said modified top rail section being an extruded member and having a flat base portion for mounting against the frame of a window forming a downwardly extending rear flange, said flange defining an outwardly facing abutment surface, said section also having an integral front flange portion defining a downwardly facing abutment surface at its lower end and a rearwardly opening channel forming portion disposed below and forwardly of said downwardly facing abutment surface, said modified top rail member being an extruded member and having spaced downwardly extending front and rear side wall portions and having an upwardly extending forwardly opening hook-like portion adjacent its upper front corner portion, the distance between the forward extremity of said hook-like portion and the rearward surface of said rear side wall portion being greater than the distance between the front surface of said rear flange and the rearward extremity of said channel forming portion, said rear side wall portion being adapted to engage said outwardly facing abutment surface to retain said hook-like portion in interlocking engagement with said channel forming portion, said hook-like portion being adapted to engage said downwardly facing abutment surface to guide said hook-like portion into interlocking engagement with said channel forming portion, said hook-like and said channel forming portions being substantially continuous over the entire width of said sash.

2. In a storm window assembly of the type having a frame of extruded rail sections and a removable sash having extruded rail members; the improvement in said assembly comprising a modified top rail section and member for said frame and sash respectively, said modified top rail section being an extruded member and having a rear flange defining an outwardly facing abutment surface, said section also having a rearwardly opening channel forming portion positioned forwardly of said flange and a horizontally disposed downwardly facing abutment surface extending rearwardly from the upper portion of said channel forming portion, said modified top rail member being an extruded member and having a rear side wall portion and an upwardly extending forwardly opening hook-like portion adjacent its upper front corner portion, said hook-like portion having an upper surface adapted to engage said downwardly facing abutment surface, the distance between the forward extremity of said hook-like portion and the rearward surface of said rear side wall portion being greater than the distance between said outwardly facing abutment surface and the rearward extremity of said channel forming portion, said rear side wall portion being adapted to engage said outwardly facing abutment surface to retain said hook-like portion in interlocking engagement with said channel forming portion, said hook-like portion adapted to engage said downwardly facing abutment surface to guide said hook-like portion into interlocking engagement with said channel forming portion, said hook-like and said channel forming portions being substantially continuous over the entire width of said sash, said top rail section having a flat base portion for mounting against the frame of a window, and said rear flange comprising a downward extension of said base portion.

3. In a storm window assembly of the type having a frame of extruded rail sections and a removable sash having extruded rail members; the improvement in said assembly comprising a modified top rail section and member for said frame and sash respectively, said modified top rail section being an extruded member and having a rear flange defining an outwardly facing abutment surface, said section also having a rearwardly opening channel forming portion positioned forwardly of said flange and a horizontally disposed downwardly facing abutment surface extending rearwardly from the upper portion of said channel forming portion, said modified top rail member being an extruded member and having a rear side wall portion and an upwardly extending forwardly opening hook-like portion adjacent its upper front corner portion, said hook-like portion having an upper surface adapted to engage said downwardly facing abutment surface, the distance between the forward extremity of said hook-like portion and the rearward surface of said rear side wall portion being greater than the distance between said outwardly facing abutment surface and the rearward extremity of said channel forming portion, said rear side wall portion being adapted to engage said outwardly facing abutment surface to retain said hook-like portion in interlocking engagement with said channel forming portion, said hook-like portion adapted to engage said downwardly facing abutment surface to guide said hook-like portion into interlocking engagement with said channel portion, said hook-like and said channel forming portions being substantially continuous over the entire width of said sash, and said horizontally disposed abutment surface comprising the lower end portion of an integral front flange forming portion of said top rail section upon which said channel forming portion is supported.

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