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METAL WINDOW FRAME AND SASH ASSEMBLY

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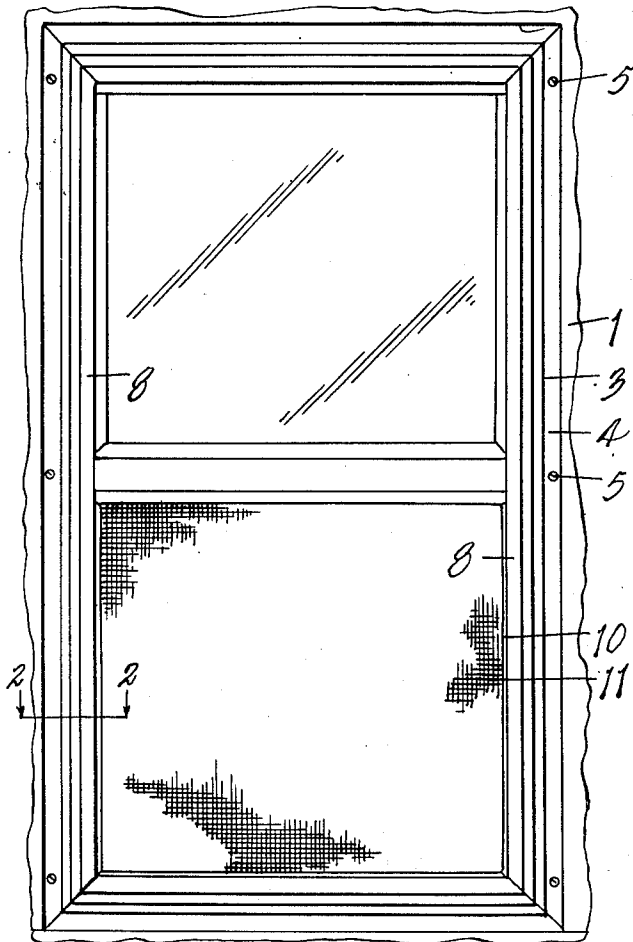


FIG. 1.

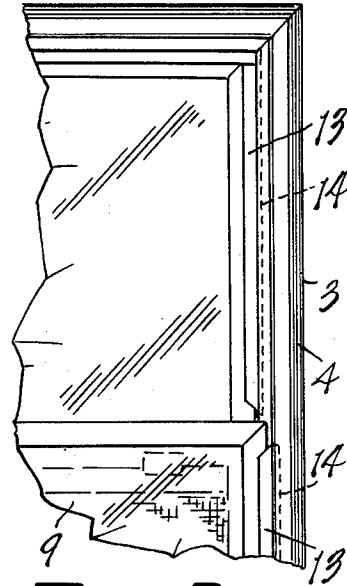


FIG. 3.

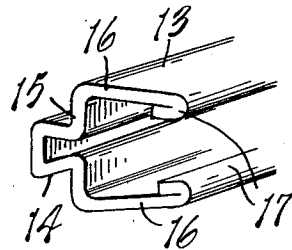


FIG. 4.

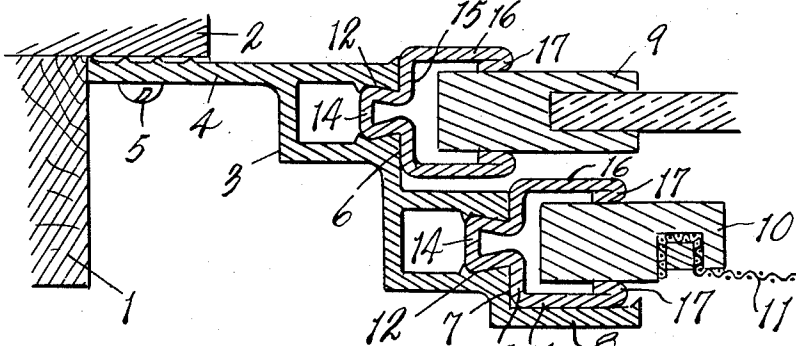


FIG. 2.

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METAL WINDOW FRAME AND SASH ASSEMBLY

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8 Claims. (Cl. 20-55)

This invention relates to a metal window frame and sash assembly including a metal frame, desirably of extruded metal, and a combined metal sash slide and weather strip.

The main objects of this invention are:

First, to provide a window assembly including metal frame and metal sash slide and weather strip members which is well adapted for use as storm windows and including a glazed sash and a sash provided with a screen.

Second, to provide a window assembly including an extruded metal frame having a way provided with a dovetailed groove with which a combined sash slide and weather strip is slidably associated.

Third, to provide a structure having these advantages which may be economically produced and is very easily assembled.

Further objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which,

Fig. 1 is an outside elevational view of a window frame having the window assembly of my invention mounted therein.

Fig. 2 is an enlarged fragmentary horizontal section on a line corresponding to line 2-2 of Fig. 1.

Fig. 3 is a fragmentary inside view.

Fig. 4 is a fragmentary perspective view of one of the combined sash slides and weather strip members.

In the accompanying drawing I have illustrated my invention as embodied in the storm window assembly. It will be understood that the structure is adapted as the main window assembly in which case the window casing is designed to receive it rather than the frame of the window assembly being designed to be mounted as a storm window assembly on casing of commonly used type.

Referring to the drawings, 1 represents part of a window casing and 2 the outer stop thereof. The frame member 3 is provided with a flange-like extension 4 adapted to be secured to the outer side of the stop 2 by means of screws 5. The frame member 3 is formed of extruded metal and is provided with inner and outer ways 6 and 7 disposed in stepped relation with the outer way 7 having an extending flange 8 on its outer edge. 9 represents a glazed sash and 10 a screen sash, the screen being conventionally illustrated at 11.

The ways 6 and 7 are provided with longitudinally extending grooves 12 of dovetail section. The combined sash slide and weather strip members 13 are of channel section and slidably retained on the ways 6 and 7 by the longitudinally extending dovetailed ribs 14 which slidably fit within the ways and retain the members 13 on the ways.

These members 13 are preferably formed of springable sheet metal stock, the dovetail ribs 14 being formed of off-set folds in the webs 15 of the members 13. The

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flanges 16 of the members 13 have inturned edges 17 which springably embrace the sides of the sash members with the edges of the sash members in spaced relation to the webs of the slide members.

This forming of the ways with longitudinal dovetail grooves therein and the forming of the members 13 with coacting dovetail ribs 14 slidably retain these parts in proper relation to each other with the slides supported on the ways at both sides of the grooves thereof. This not only serves to slidably support the members 13 but provides an effective weather seal. The forming of the members 13 of slidable sheet metal stock with the flanges springably engaging the sides of the sash provides an effective seal between the members 13 and the sash and avoids the necessity of accurate machining of the parts, and prevents the parts wedging as a result of expansion and contraction.

In the embodiment illustrated, the frame is represented as of wood but they might be metal, if desired. I have illustrated my invention as embodied in a storm window assembly. I have not illustrated other types of assemblies as it is believed that such modifications as may be required will be readily understood by those skilled in the art. I have illustrated the dovetail grooves and ribs as having flat outwardly converging sides. I desire to point out, however, that it is practical to form these parts of curved dovetail section, particularly where the frame members are of extruded metal. I have not attempted to illustrate the various other embodiments and adaptations which I contemplate as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described the invention, what is claimed to be new and is desired to be secured by Letters Patent is:

1. In a window assembly, the combination of a frame member of extruded metal and having inner and outer slideways arranged in stepped relation and having longitudinal grooves therein of dovetail section, inner and outer sashes, and combined sash slide and weather strip members of channel section in which the sashes are disposed with the edges of the sashes in spaced relation to the webs of the channels, said slide members being formed of springable sheet metal stock, the arms thereof springably engaging the sides of the sashes, the web portions of said slide members having longitudinally extending rib-like off-sets disposed centrally thereof and of dovetail section slidably fitting said dovetailed grooves in said ways with the webs of the slide members at the sides of said off-sets in sliding face to face engagement with the ways at the sides of the grooves therein, the lengths of the grooves of dovetail section being substantially greater than the length of the off-sets of dovetail section to permit the off-sets to slide longitudinally of the grooves to position the slide members and sashes in different positions longitudinally of the ways, said spacing of the edges of the sashes from the web portions of the slide members and said springable engagement of the arms of the slide members with the sides of the sashes providing an effective weather seal and permitting relative adjustment of the sashes and slide members in the direction of the width of the sashes to prevent binding of the rib-like off-sets of dovetail section in the grooves of dovetail section.

2. In a window assembly, the combination of a frame member having inner and outer slideways arranged in stepped relation and having longitudinal grooves therein of dovetail section, inner and outer sashes, and combined sash slide and weather strip members of channel section in which the sashes are disposed, the web portions of said slide members having longitudinally extending rib-like

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off-sets disposed centrally thereof and of dovetail section slidably fitting said dovetailed grooves in said ways with the webs of the slide members at the sides of said off-sets in sliding face to face engagement with the ways at the sides of the grooves therein, the length of the grooves of dovetail section being substantially greater than the off-sets of dovetail section to permit the off-sets to slide longitudinally of the grooves to position the slide members and sashes in different positions longitudinally of the ways.

3. In a window assembly the combination of a frame member having inner and outer slide ways arranged in stepped relation and having longitudinal grooves therein of dovetailed section, and combined sash slide and weather strip members of channel section in which sashes may be disposed, said slide members having longitudinally extending ribs of dovetailed section slidably disposed within said dovetailed grooves in said ways to permit the slide members and the sashes disposed therein to be positioned in different positions longitudinally of the ways, the outer way having an integral longitudinal extending flange disposed at the outer side of the outer slide member in lateral supporting overlapping relation thereto.

4. In a window assembly the combination of a frame member of extruded metal having inner and outer slide ways arranged in stepped relation and having longitudinal grooves therein of dovetailed section, and combined sash slide and weather strip members of channel section in which sashes may be disposed, said slide members having longitudinally extending ribs of dovetailed section slidably disposed within said dovetailed grooves in said ways to permit the slide members and the sashes disposed therein to be positioned in different positions longitudinally of the ways.

5. In a window assembly, the combination of a frame member and having a slideway and having a longitudinal groove therein of dovetail section, a sash, and a combined sash slide and weather strip member of channel section in which the sash is disposed with the edge of the sash in spaced relation to the web of the channels to permit relative adjustment of the sash and slide member in the direction of the width of the sash, said slide member being formed of springable sheet metal stock, the edges of the arms thereof being turned inwardly and springably engaging sides of the sash, the web portion of said slide member having a longitudinally extending rib-like off-set disposed centrally thereof and of dovetail

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section slidably fitting said dovetailed groove in said way for adjustment of the slide member and sash as a unit to different positions longitudinally of the way, the web of the slide member at the sides of said off-set being in sliding face to face engagement with the way at the sides of the groove therein.

6. In a window assembly, the combination of a frame member having a slideway and having a longitudinal groove therein of dovetail section, a sash, and a combined sash slide and weather strip member of channel section in which the sash is disposed, the web portion of said slide member having a longitudinally extending rib-like off-set disposed centrally thereof and of dovetail section slidably fitting said dovetailed groove in said way for adjustment of the slide member and sash as a unit to different positions longitudinally of the way, the web of the slide member at the sides of said off-set being in sliding face to face engagement with the way at the sides of the groove therein.

7. In a window assembly, the combination of a frame member having a slideway with a longitudinal groove therein of dovetail section, and a combined sash slide and weather strip member of channel section in which a sash may be disposed with the edge of the sash in spaced relation to the web of the channel to permit relative adjustment of the sash and slide member in the direction of the width of the sash, said slide member having a longitudinally extending rib of dovetailed section slidably disposed in said dovetailed groove in said way for adjustment of the slide member and a sash disposed therein to different positions longitudinally of the way.

8. In a window assembly, the combination of a frame member having a slideway with a longitudinal groove therein of dovetail section, and a combined sash slide and weather strip member of channel section in which a sash may be disposed, said slide member having a longitudinally extending rib of dovetailed section slidably disposed in said dovetailed groove in said way for adjustment of the slide member and a sash disposed therein to different positions longitudinally of the way.

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