

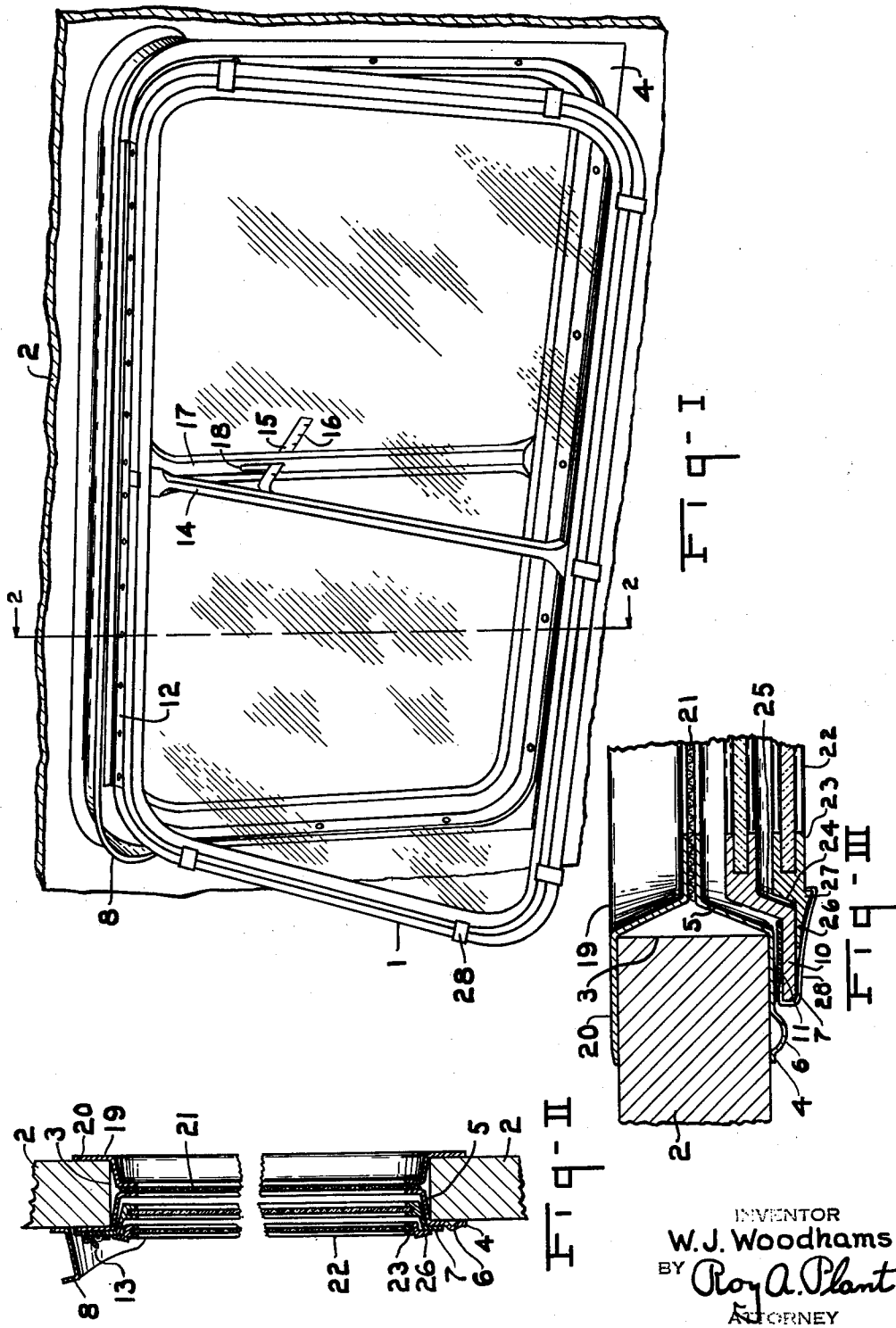
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WINDOW CONSTRUCTION

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WINDOW CONSTRUCTION

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The present invention relates broadly to window constructions, and in its specific phases to window and storm sash assemblies especially adapted for use on house trailers.

The use of conventional type top-hinged windows on house trailers, plus a mechanism for swinging the bottom of the window out for ventilation purposes, is common. That type of construction has proven to be generally satisfactory for use under conditions where the weather is mild, although some forms of these conventional window constructions do give trouble due to leakage, particularly under driving rains, with such leakage sometimes occurring in the hinge portion of the window and at other times along the sides and bottom of the window. Where real cold weather is encountered, such as is found in the northern states during the winter, the matter of comfort, as well as conservation of fuel, becomes pertinent. Heated floors for house trailers have, for instance, been provided as a means of increasing the comfort of the occupants. At the same time single glass windows have been and are in universal use for house trailers. That type of construction makes loss of heat a natural result, and cold drafts due to cold air flowing down from the inner face of the windows, an inherent obstacle to comfort. It was a recognition of these current problems and difficulties encountered with trailer window constructions as well as a complete lack of a satisfactory solution for same, which led to the conception and development of the present invention.

Accordingly, among the objects of the present invention is the provision of an improved house trailer window construction which is substantially water tight even under driving rain.

Another object is to provide a means for protecting the hinge of a top hinged window, with such protection being in addition to the conventional visor type trough commonly used above windows of this type.

Another object is to provide a window frame with extending, substantially rectangular, flanged edges which make possible the fitting of same to a rectangular opening rather than requiring an oval or rounded corner opening for the window.

A further object is to provide a window frame which has a small outstanding rib on its outer face adjacent but outside the outer edge of the glass frame so as to form a shelter for the edge of the glass frame which thus minimizes the forcing of water under the glass frame under conditions of driving rains.

Another object is to provide a glass frame for

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a window wherein such frame has a recessed front with the glass set back of said recess.

A further object is to provide a storm sash adapted to closely fit a glass frame having a recessed front which is preferably provided with an outwardly flared taper, so that when the storm sash is in place, it forms a relatively tight fit in the recess of the glass frame of the window.

Another object is to provide clip means for anchoring a storm sash onto the glass frame of a window in manner such that the clips can be easily removed and the storm sash taken off for washing, or storage in warm weather.

A further object is to provide a glass frame and storm sash assembly which is adapted for use under varying conditions, such as are encountered with house trailers, and other constructions, where a storm sash combination may be used to advantage.

Still further objects and advantages of the present invention will appear as the description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, consists of the window construction hereinafter fully described and particularly pointed out in the claims, the annexed drawing and the following description setting forth in detail certain means for carrying out the invention, such disclosed means illustrating, however, but one of various ways in which the principle of the invention may be used.

In the annexed drawing:

Figure I shows a perspective view of a preferred form of the window and storm sash assembly of the present invention, with said window in partially open position.

Figure II shows a fragmentary section view as taken along line 2—2 of Figure I, with some of the parts omitted and the window closed, said view being taken looking in the direction of the arrows.

Figure III shows an enlarged fragmentary section view through one edge of the assembly.

Referring more particularly to the drawing, it will be noted that the window assembly 1 is shown mounted on a suitable wall 2 having an opening 3 therethrough for receiving the window assembly. This window assembly has an outer frame member 4 with an inwardly recessed portion 5, the center of which is open and glazed for the passage of light. This outer frame member is of general rectangular shape, as is particularly shown in Figure I, so as to facilitate fitting and closing a rectangular opening without requiring built up rounded corners for such opening. The

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outer edge of the sides and bottom of the outer frame 4 is preferably provided with an outwardly directed rib 6, Figures II and III, which acts as a protecting rib to guard the edge of glass frame 7 against the effects of driving storms, and at the same time this rib not only stiffens the outer frame 4 but provides a pleasing decorative appearance. Mounted on wall 2 directly above outer frame member 4 is a visor shaped trough 8 which also helps prevent leakage of the window assembly.

Glass frame 7, Figures II and III, is preferably inwardly offset to fit into the recess of outer frame member 4. The front face of glass frame 7 is also preferably recessed behind a side flange 10 for a purpose to be hereinafter described, said extending flange 10 having a suitable gasket 11, preferably of rubber, mounted on its inner face for forming a seal against outer frame member 4 when the window is in closed position. A piano hinge 12, Figure I, is preferably used for swingably suspending the glass frame 7 along its upper edge to outer frame member 4.

Mounted close to and directly over the upper portion of piano hinge 12 is a small outwardly extending hinge protecting member 13. This particular member is preferably made so that any drippage from same will fall clear of the hinge, and same may even have a trough incorporated in it to carry water to its ends for discharge. This hinge protecting member does not need to be large since it is sheltered by the visor shaped trough 8 and only has to work as a secondary protection of the hinge against leakage.

In order that the window may be swung out for ventilation purposes, the glass frame 7 has mounted on its inner face, and extending from top to bottom thereof, preferably midlength of same, a cross member 14, on which is pivotally mounted an operating arm member 15 which has notches 16 in its lower edge. Directly opposite cross member 14 of glass frame 7 is a second cross member 17 which is anchored at its upper and lower ends on the inner face of outer frame member 4. This cross member 17 is provided with a slot 18 through which operating arm member 15 extends in manner such that the notches 16 on the lower edge of same engage the lower end of slot 18 for holding the glass frame at various degrees of extension under open conditions.

The inner face of window opening 3 is provided with an inner frame member 19 which has an extending, substantially rectangular, flange 20 adapted to be conventionally fastened to wall 2. The inner frame member 19 may be offset to form a recessed face, and that recessed face in turn has mounted on the edge of same, adjacent outer frame member 4, a screen member 21. This screen member will be provided with a suitable narrow slot adjacent and in line with slot 18 of cross member 17 so that operating arm member 15 will be freely operable therethrough.

Storm sash 22 is provided with a glass frame 23 having tapered side edges 24 which are preferably adapted to closely fit recess 25 of glass frame 7 at the outer edge of the tapered portion 24. This makes a substantially airtight joint while providing support for the storm sash on the glass frame. The storm sash frame 23 is provided with a sidewise extending flange 26 adapted to bear against the outer face of ex-

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tending flange 10 of glass frame 7 and form a further seal therewith. Projecting outward from side wise extending flange 26 is a hooklike shoulder rib 27 from which flange 26 tapers thinner as the outer edge of the storm sash frame is approached.

The storm sash frame may be fastened to the window glass frame in various ways and one of the most convenient is to use spring clips 28 which are preferably curved slightly inward between hook ends, one end being adapted to engage and grip hooklike shoulder rib 27 while the other hook end engages and hooks around the edge of extending flange 10 of glass frame 7, as is shown in Figure III. This construction locks the storm sash onto the outer face of the window frame and yet permits its easy removal by merely prying under each spring clip 28 to spring out the center of same substantially straight which will allow its hook end engaging rib 27 to be released so that the clip can be removed. By following this procedure until all the clips are removed, the storm sash can be lifted off for washing or storage until needed again. The reinstallation of the storm sash merely requires a reverse following of the same steps.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the combinations herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

1. A window construction comprising a window frame, a glass frame fitting said window frame, means for hingedly mounting one edge of said glass frame on said window frame, said glass frame having an extending flange adapted to project over the edge of said window frame when they are in juxtaposition, said glass frame also being recessed inwardly so that the plane of the glass is offset from said flange, a storm sash, and means for mounting and fastening said storm sash on said glass frame in the inwardly recessed portion of same comprising a multiplicity of hook-ended snap-on resilient clips, one hooked end of each clip being engaged with the outer edge of the flange of the glass frame, shouldered means on the outer face of the storm sash, the resilient clips being normally biased toward the storm sash and the other hooked ends of the resilient clips being releasably engaged with said shouldered means on the sash frame to form a unit assembly of the glass frame and storm sash.

2. A window construction comprising a window frame, a glass frame fitting said window frame, means for hingedly mounting one edge of said glass frame on said window frame, said glass frame having an extending flange adapted to project over the edge of said window frame when they are in juxtaposition, said glass frame also being recessed inwardly so that the plane of the glass is offset from said flange, a storm sash, and means for mounting and fastening said storm sash on said glass frame in the inwardly recessed portion of same comprising a multiplicity of hook-ended snap-on resilient clips, one hooked end of each clip being engaged with the outer edge of the flange of the glass frame, a shouldered rib on the outer face of the storm sash, the resilient clips being normally biased toward the storm sash and the other hooked ends of the

resilient clips being releasably engaged with the rib on the sash frame to form a unit assembly of the glass frame and storm sash.

3. A window construction having a glass frame, said glass frame having its face recessed inwardly so that the plane of the glass is offset from the face of said frame, a storm sash, said storm sash having a portion closely fitting into the recess portion of said glass frame, shouldered means on the outer face of said storm sash, and multiple resilient clip means having hook ends to engage said shouldered means at one end and said glass frame at the other and normally biased in a direction to releasably mount and anchor said storm sash in place in the recess portion of said glass frame so that the two form a unit assembly.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,263,248	Hope -----	Apr. 16, 1918
1,639,148	Redrup -----	Aug. 16, 1927
1,906,997	Neeb -----	May 2, 1933
1,922,494	Nelson -----	Aug. 15, 1933
2,003,856	Gimbel -----	June 4, 1935
2,105,735	Hodge -----	Jan. 18, 1938
2,119,667	Crowe -----	June 7, 1938
2,174,781	Edwards -----	Oct. 3, 1939
2,246,075	Phillips et al. -----	June 17, 1941
2,256,588	Beaman -----	Sept. 23, 1941
2,452,815	Wagner -----	Nov. 2, 1948
2,467,604	Tinnerman et al. -----	Apr. 19, 1949