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L. J. PLYM

2,354,054

WINDOW CONSTRUCTION

Original Filed Oct. 26, 1939

Fig. 1

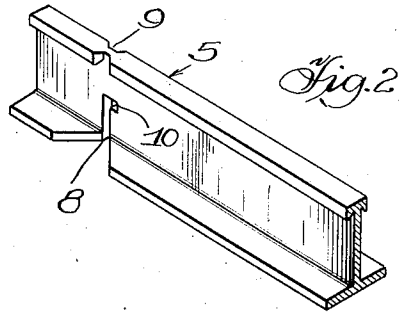
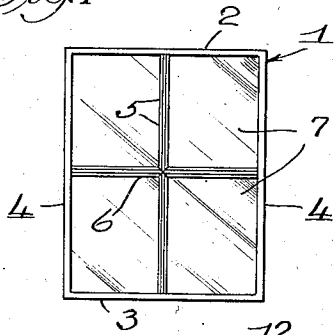


Fig. 2

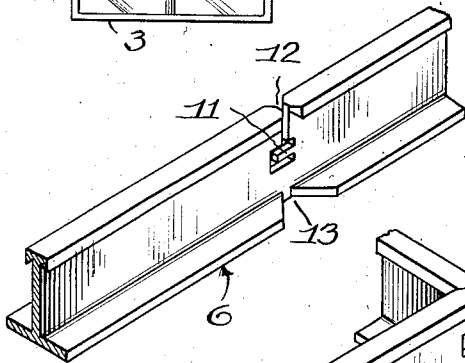


Fig. 3

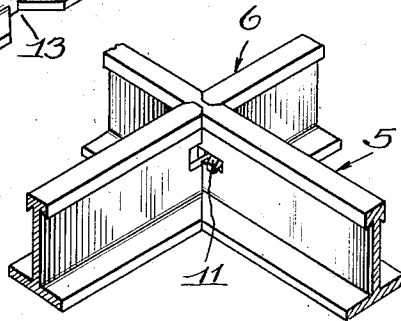


Fig. 4

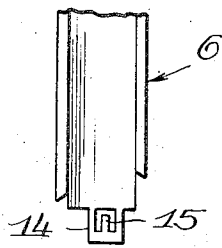


Fig. 5

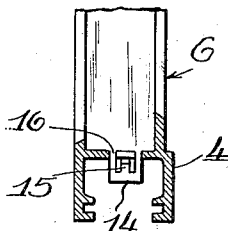


Fig. 6

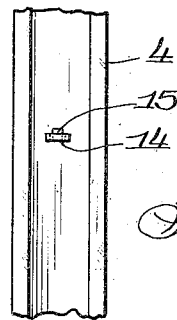


Fig. 7

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UNITED STATES PATENT OFFICE

2,354,054

WINDOW CONSTRUCTION

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Original application October 26, 1939, Serial No. 301,478, now Patent No. 2,304,598, dated December 8, 1942. Divided and this application August 15, 1942, Serial No. 454,936

5 Claims. (Cl. 287-51)

The present invention relates to a novel window construction, and more particularly to a metal sash.

Among the objects of the present invention is the provision of a novel sash construction and arrangement in which the members are coped or notched in such manner as to expedite assembly. This sash construction further comprehends a novel muntin structure in which these members are so formed and interengaged as to tightly interlock and provide a rigid assembly with the sash rails.

The present application is a division of my copending application Serial No. 301,478, filed October 26, 1939, now Patent No. 2,304,598, dated December 8, 1942.

Further objects are to provide a construction of maximum simplicity, efficiency, economy and ease of assembly and operation, and such further objects, advantages and capabilities as will later more fully appear and are inherently possessed thereby.

The invention further resides in the novel combination, construction and arrangement of parts illustrated in the accompanying drawing, but while there is shown therein a preferred embodiment, it is to be understood that the same is susceptible of modification and change without departing from the spirit of the invention.

In the drawing:

Figure 1 is a view in side elevation of a window provided with the novel muntin and sash rail assembly.

Figs. 2 and 3 are views in perspective showing the novel arrangement for interlocking or interengaging the muntins.

Fig. 4 is a view in perspective showing the muntins in interlocked relation.

Fig. 5 is a fragmentary view in elevation showing an end of a muntin to be joined to the tubular sash rail.

Fig. 6 is a fragmentary view showing the muntin in side elevation and the sash rail in vertical cross-section and disclosing the manner of attaching the end of the muntin to the sash rail.

Fig. 7 is a fragmentary view in side elevation of the sash rail with the interlocking end of the muntin extending through an opening provided in the rail.

Referring more particularly to the embodiment illustrated in the drawing, the novel invention comprises a metal window sash 1 having a top rail 2, bottom rail 3 and side rails 4. Mounted in this sash is a novel muntin construction comprising a vertical munting member 5 and a hori-

zontally extending muntin member 6 adapted to retain a plurality of panes of glass 7. The members 5 and 6 are coped to interengage and interlock to form a rigid assembly. As shown in Fig. 2, the member 5 is coped or notched at 8 and 9, with the notch 8 formed with an offset recess 10 for the reception of a tongue 11 in the muntin 6. This muntin 6 is also coped or notched at 12 and 13 in such manner that the complementary notches and interengaging parts in the muntins 5 and 6 provide an interlocking assembly in the manner shown more clearly in Fig. 4, with the tongue 11 being offset or distorted by any suitable tool into the offset recess 10 so as to lock and retain the parts together in rigid assembly.

The ends of the muntins are each coped in the manner shown in Fig. 5 where the reduced coped ends or projections 14 are each formed or cut away in a manner to provide a tongue 15. Each end 14 and tongue 15 are projected through an opening 16 in the side rails 4 and the end of the tongue is then distorted sidewise or offset in the manner shown in Figs. 6 and 7, so as to lock against the rails and securely retain these parts together. It is to be understood that the same form of interlocking connection applies to the mounting of the ends of the vertical muntin 5 in the top and bottom rails 2 and 3.

The novel muntin arrangement herein disclosed, when assembled with the top, bottom and side rails, forms a rigid, light-weight, metal sash unit requiring no screws or other attaching means. The abutting ends of the sash rails may be suitably welded.

Having thus described my invention, I claim:

1. In a window sash construction provided with side rails, a muntin and means for securing an end of the muntin in a side rail, said muntin having its end reduced and adapted to be projected through an opening in the side rail, the reduced end being notched and provided with a rearwardly projecting, deformable tongue, which when projected through the side rail and the end distorted sidewise, the end of the tongue engages a surface of the side rail and prevents its withdrawal from the rail.

2. In a window sash construction provided with side rails, a muntin adapted to have its ends anchored in the side rails, each end of the muntin being reduced, notched and provided with an integral, rearwardly projecting tongue, the end and the tongue being adapted to be inserted through a slot in each side rail whereby the tongue when offset, abuts and interlocks with the

rear face of the side rails to thereby rigidly connect the muntin to the sash.

3. In a window sash assembly, a pair of muntins providing a support for adjoining panes of glass, and means for interconnecting these muntins to form a rigid assembly, said means comprising complementary notches in said muntins to permit their interengagement, an offset recess in the notch in one of said muntins and an offset tongue in the notch of the other, said tongue and offset recess being so constructed and arranged that when the muntins are assembled, an offsetting of the end of the tongue into the offset recess locks the muntins together in rigid assembly.

4. A metal window sash comprising top, bottom and side rails, a vertical and a horizontal muntin mounted in intersecting relation and provided with interengaging portions for rigid connection, and means for rigidly connecting the ends of the muntins to their respective rails, said

means including coped projections on the ends of the muntins provided with a notch and a reduced, rearwardly projecting tongue adapted to be projected through an opening in a rail and the tongue thereat distorted sidewise whereby the end of the tongue engages the adjacent surface of the rail to lock the muntin to the rail.

5. A metal window sash comprising top, bottom and side rails, intersecting muntins provided in the sash for mounting adjacent panes of glass, and means for connecting the ends of the muntins in the top, bottom and side rails, said means including reduced ends on the muntins adapted to project through openings in the rails and with each end provided with a notch and an integral tongue adapted to be offset sidewise in either direction after assembly and the end of the tongue engaging the adjacent surface of the rail to lock the muntin to the rail.

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