Aug. 25, 1936. W. J. PERTZ 2,052,244

DOUBLE WINDOW CONSTRUCTION

Filed Dec. 22, 1934

Fig. 1.

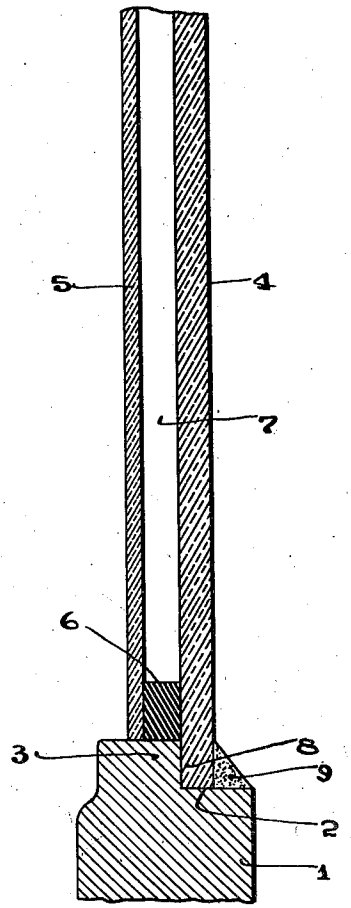


Fig. 2.

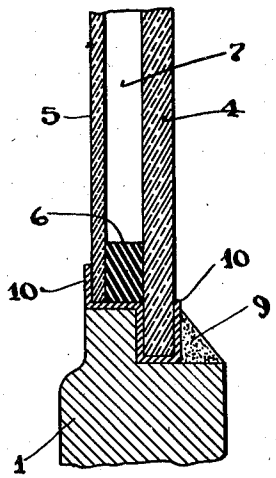
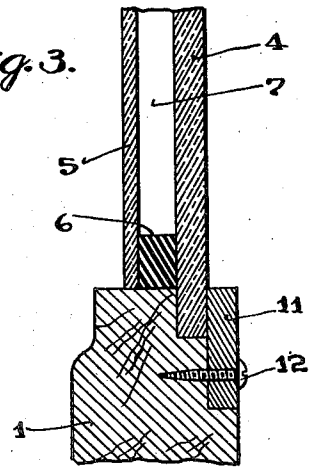


Fig. 3.



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DOUBLE WINDOW CONSTRUCTION

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Application December 22, 1934, Serial No. 758,800

2 Claims. (Cl. 20—56.5)

The invention relates to a double window construction, and has for its principal object the provision of a double pane construction which can be used to advantage without the requirement for a sash which is thicker than the ordinary standard sash employed for windows using a single glass. A further object is the provision of a double glazing unit which is well adapted to the use of one sheet of thin glass as the inner pane of the unit, permitting a lighter, cheaper construction and one less subject to breakage incident to atmospheric pressure changes. Embodiments of the invention are shown in the accompanying drawing, wherein:

Figure 1 is a partial section through one form of construction. And Figs. 2 and 3 are similar sections through modifications.

Referring to Fig. 1 of the drawing, 1 is the sash or frame provided with the usual groove 2 and the shoulder 3 along one side of the groove. The glazing unit is made up of the two glass sheets 4 and 5 spaced apart by the strip 6, preferably of rubber or some other material having some elasticity or give, to which the sheets are cemented, and which forms a seal for the space 7 between the sheets. In practice, the space 7 is filled with dry air or an inert gas, such as nitrogen. The members 4, 5 and 6 form a unit which may be fabricated to the desired dimensions at the factory and shipped ready for glazing.

The edge 8 of the sheet 4 projects out past the edge of the sheet 5, and provides a glazing margin which is seated in the groove 2 in the sash, while the edge of the sheet 5 and the spacer 6 lie in opposition to the shoulder 3. Putty or other similar material is applied, as indicated at 9, to hold the unit in place and form a seal. The expedient of employing the projecting margin 8 on the sheet 4 permits the unit to be glazed in a sash which is no thicker than that ordinarily used for single glazing. The sheet 4 is of relatively thick glass and lies on the outer side of the unit. The margin 8 is thus of sufficient strength, and the danger of breaking this margin in shipping is less than if thin glass were employed. It is desirable to have the heavy sheet 4 on the outer side as wind pressure produces some bending or distortion, impairing reflection and hence the apearance of the unit, and such bending is reduced to a minimum with heavy glass. The inner sheet 5 is preferably of thin glass (either plate or window) which reduces the weight and cost of the unit, and also the tendency of the glass to crack under changes in atmospheric pressure, which is an important factor with certain shapes and sizes. By way of example, the outer sheet 4 may be of plate glass about ¼ inch in thickness and the inner sheet of ⅛ inch glass. The ⅛ inch glass has a deflection before fracture under a given load about four times that of ¼ inch glass so that the use of the thin glass greatly reduces the danger of fracture of both sheets under varying atmospheric pressures, and at the same time the unit has the same appearance as one using heavy glass throughout.

Fig. 2 shows a modification in which the metal frame 10 of light spring metal is used to protect the edges of the unit and add to its strength. In other respects the construction is the same as that of Fig. 1.

In the construction of Fig. 3, the unit is secured in place by the clamping strips 11 instead of by the use of putty, such strips being held in place by the screws 12. The form of sash employed is immaterial, the only requirement being a groove or recess for the margins 8 of the sheet 4 and a shoulder, such as 3, in opposition to the edge of the sheet 5 and spacer 6.

What I claim is:

1. A window construction comprising a frame having a shoulder with a glass receiving groove at one side thereof, and a glazing unit comprising two sheets of glass and spacing and sealing means between sheets at the edges thereof, one of said sheets being the larger so that its edge projects out past the edge of the other sheet, and such larger sheet being of greater thickness than the smaller sheet, the edge of such larger, thicker sheet fitting said groove, while the edge of the smaller sheet and the spacer lie in opposition to said shoulder, with the smaller sheet constituting the inner pane of the unit.

2. A glazing unit consisting of two panes of glass spaced apart, one of which is larger and of greater thickness than the other so that its edge projects out past the edge of the smaller sheet around the periphery of the unit to provide a support for the unit in mounting it in its frame, and a spacing member between the sheets around the edges thereof, the space between the sheets being sealed off from the atmosphere surrounding the unit.

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