Aug. 4, 1936. C. E. STROUD 2,049,528

DOUBLE GLAZED WINDOW

Filed July 3, 1935

Fig. 1.

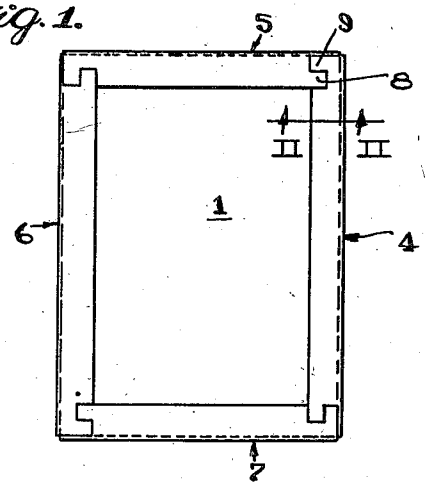


Fig. 2.

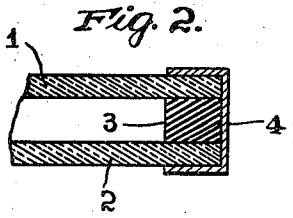


Fig. 3.

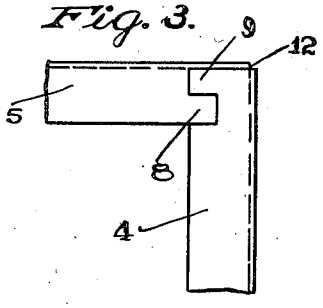


Fig. 4.

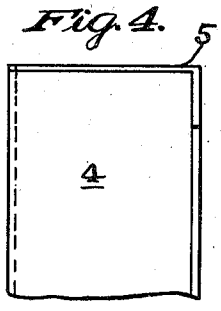


Fig. 5.

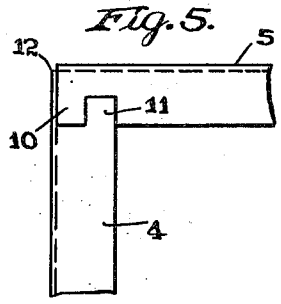


Fig. 8

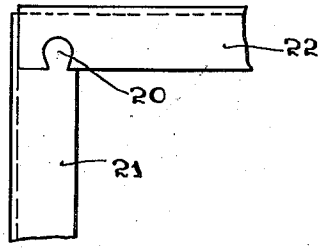


Fig. 6.

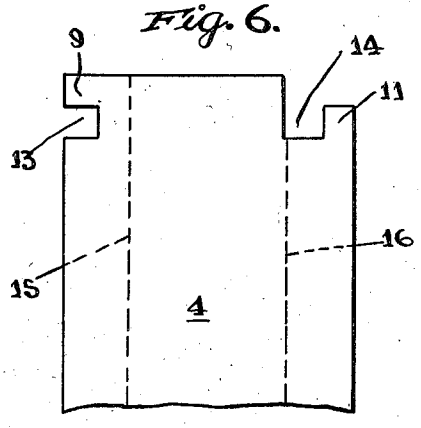
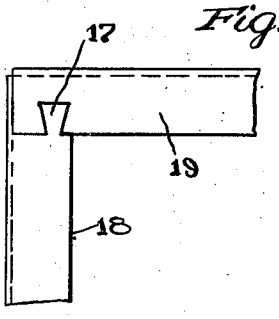


Fig. 7.



INVENTOR.
CHARLES E. STROUD
BY Bradley & Bee
ATTORNEYS.

Patented Aug. 4, 1936 2,049,528

UNITED STATES PATENT OFFICE

2,049,528

DOUBLE GLAZED WINDOW

Charles E. Stroud, Ford City, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania

Application July 3, 1935, Serial No. 29,696

2 Claims. (Cl. 20—56.5)

The invention relates to double glazed windows of the type shown in the Parkinson and Hamill application, Serial No. 755,924, in which the glass unit is made up of a pair of glass sheets clamped together by edge strips of U cross section with suitable separator means between the sheets at their edges for spacing and sealing purposes. The invention relates more particularly to the means employed for securing the edge strips together where they meet at the corners of the glass sheets. Heretofore, this has ordinarily been done by the use of solder, or the like, which gives sufficient security, but which in some cases, causes injury to the sealing material incident to the heat required, and makes the strips difficult of separation when it is necessary to disassemble a unit for replacements or repairs. The primary objects of the present invention are to provide an improved construction for securing the edge strips at the corners, (1) which is of good appearance and adds nothing to the thickness of the unit; (2) which adds little to the cost of the unit and joins the strips with sufficient security; and (3) which may be assembled and disassembled with a minimum of labor. Certain embodiments of the invention are illustrated in the accompanying drawing, wherein:

Figure 1 is a side elevation of the unit. Fig. 2 is a section on the line II—II of Fig. 1. Figs. 3, 4 and 5 are detail views of the interlock or joint between two of the strips at the corner of the unit, Fig. 3 being a front view, Fig. 4 an edge view, and Fig. 5 a rear view. Fig. 6 is a plan view of one end of one of the strips showing how it is stamped preliminary to bending it into channel form. And Figs. 7 and 8 illustrate modifications of the interlock.

Referring to the drawing, 1 and 2 are glass sheets having the sealing strips 3 of rubber between their edges, and 4, 5, 6 and 7 are the edge strips of U cross section formed from light spring sheet metal, such as iron, brass or composition.

The interlock at the corners of the unit, to which the invention particularly relates, is the same at each of the four corners, and is formed by providing each flange of each strip with a slot and a tongue adapted to interengage with a tongue and slot respectively formed in the flanges of the other strip. For instance, the strip 5 has its front flange (Figs. 1 and 3) cut away to form the tongue 8 with a slot thereabove into which fits the tongue 9 on the front flange of the strip 4. Looking at the back of this same joint, as shown in Fig. 5, the strip 5 has a tongue 10 which fits into a slot in the strip 4, while the strip 4 has a tongue 11 which fits into a slot in the strip 5. The webs of the two channel strips abut each other, as indicated at 12. It will be noted that the tongue 9 of the front flange of the strip 4 is at right angles to the tongue 11 of its rear flange, and that the tongue 8 of the front flange of the strip 5 is at right angles to the tongue 10 of the rear flange. Each strip is thus locked by the other strip against outward movement; that is, against movement tending to disengage the strip from the glass sheets. Since the material of the strips is thin, springy, sheet metal, no difficulty is experienced in sliding the ends into the interengaging positions shown where the tongues of one strip snap into the corresponding slots of the opposing strip. The joints thus formed are sufficiently secure to prevent accidental displacement, but at the same time permit the ready disengagement of the strips when this is necessary for replacement or repairs.

The method of stamping out the ends of the strips preliminary to bending to channel form will be seen by reference to Fig. 6, wherein 9 and 11 are the tongues heretofore referred to on the strip 4, and 13 and 14 are the slots for receiving the tongues 8 and 10 of the strip 5. The slots are in all cases of the proper dimensions to receive the tongues, and the strip is subsequently bent along the dotted lines 15 and 16 to give it the necessary channel form.

Fig. 7 illustrates a modification wherein the tongue 17 of the strip 18 is made of dovetail shape and fits into a slot of corresponding shape in the strip 19 so that each interlock prevents relative motion of the strips in both directions. In other respects, the construction follows that heretofore described.

Fig. 8 follows the construction of Fig. 7, differing only in the shape of the tongue 20 on the strip 21 which fits into a slot of similar shape in the strip 22. The structures of Figs. 7 and 8 have the disadvantage that the tongues 17 and 20 are weaker than those of the preferred construction of Figs. 1 to 6 and involve more difficulty in assembling and disassembling. The channel strips shown in all the modifications are of one piece construction, but if desired, may be made up of two opposing angles suitably secured together.

What I claim is:

1. In combination with a pair of glass plates in parallel with spacing means between their edges, metal clamping strips of channel shape fitting around the edges of the sheets, and securing means for the strips at the corners of the sheets where the strips meet, comprising a tongue and

slot interlock between the flanges of the meeting strips on each side of the pair of sheets, each flange of each strip having a tongue and a slot in parallel with each other but with the tongue and slot of the one flange at right angles to the tongue and slot of the other flange, so that when the tongues and slots of the two strips are interlocked with each other, each strip is prevented from moving relative to the other.

2. In combination with a pair of glass plates in parallel with spacing means between their edges, metal clamping strips of channel shape fitting around the edges of the sheets, and securing means for the strips at the corners of the sheets where the strips meet, comprising a dovetail tongue and slot interlock between the flanges of the meeting strips on each side of the pair of sheets interengaging so that each strip prevents movement of the other strip outwardly with respect to the glass sheets.

CHARLES E. STROUD.