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W. OWEN

2,278,360

DOUBLE GLAZING CONSTRUCTION

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Fig. 1.

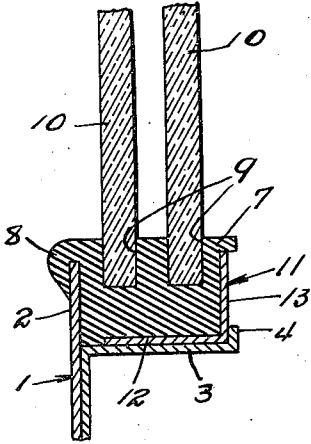


Fig. 2.

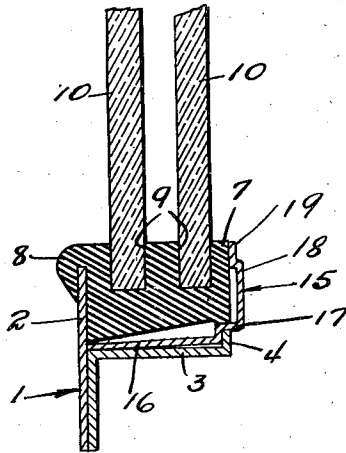


Fig. 3.

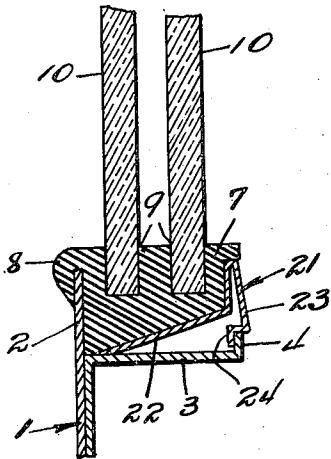
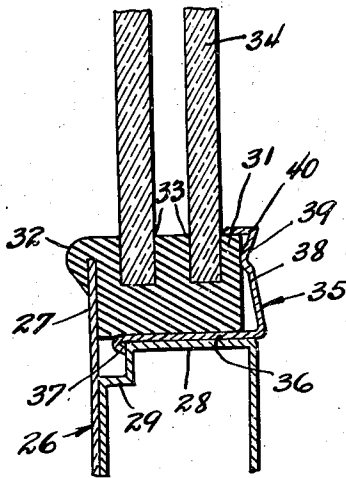


Fig. 4.



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DOUBLE GLAZING CONSTRUCTION

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1 Claim. (Cl. 20—56.5)

The present invention relates to multiple glazing and more particularly to a double glazed window construction.

One object of the invention is the provision of an improved supporting means by means of which the glass panes are maintained in spaced relation within a frame element.

A further object of the invention is to provide a construction wherein the glass panes may be inserted or removed very easily, but which at the same time affords adequate protection against displacement due to vibration.

Other objects and advantages of the invention will become more apparent from the following detailed description of certain embodiments thereof.

In the accompanying drawing,

Figure 1 is a vertical sectional view of a construction formed in accordance with the provisions of the invention.

Figures 2, 3, and 4 are vertical sectional views of additional forms of the invention.

Referring to the drawing, a channel frame 1, formed of sheet metal, is provided with an inwardly-extending flange 2 and a ledge 3 disposed at right angles thereto. The ledge 3 may be of any desired width and if necessary may be strengthened through the addition of reinforcing strips. An inwardly-extending section 4 is formed at the outer edge of the ledge lying in spaced parallel relation to the flange 2.

A block 7 of resilient material such as rubber, synthetic resin, or the like, is seated upon the ledge and is provided with a lip 8 extending from its leading edge which overlaps the flange 2. This lip also provides a weather seal for the channel frame. Spaced grooves 9 formed in the inner face of the block 7 receive glass panes 10. A retainer strip 11, substantially of L-shape in cross-section, serves to compress the block 7, securing the panes 10 therein. The retainer 11, framed from spring steel, comprises a horizontal member 12 which lies between the ledge 3 and the block 7 and a vertical section 13 which rests along the rear edge of the block 7. The retainer 11 interlocks with the section 4 of the ledge, thus forming the several elements into a unitary structure, that is held under compression by the conjoint action of the resilient members 7 and 11.

In the form of the invention illustrated in Figure 2, a channel frame similar to that already described, is employed as a support for the construction. The resilient block 7 is so formed that a retainer strip 15 may be more easily inter-

posed between it and the ledge 3. The retainer strip 15, shaped from spring steel, is substantially of L-shape in cross-section and is provided with a horizontal section 16, which fits between the flange 2 and the section 4 of the ledge. A second horizontal section 17, offset from the section 16, extends beyond the block 7, and a vertical portion 18 of the retainer has an offset finger 19 which presses against the block 7, thus providing a more positive compression thereof.

Another form of the invention is illustrated in Figure 3 wherein a special retainer 21 is employed. The retainer 21 is provided with a section 22 lying between the block 7 and the ledge 3 and a section 23, which is provided with an offset toe 24 to lock with the inwardly-extending section 4 of the ledge 3. In this manner additional compression of the block 7 is afforded, through an upward pressure on the bottom of the block 7 and an inward pressure against the side of the block exerted by the retainer 21.

A further form of the invention shown in Figure 4 wherein a channel frame 26 is provided with a flange 27 extending inwardly therefrom and a ledge 28 disposed substantially at right angles to the frame. The ledge 28 has an offset portion 29 immediately adjacent to the flange 27. A block 31 of resilient material is seated upon the ledge 28 and is provided with a lip 32 extending from its leading edge and lying over the flange 27. Spaced grooves 33 formed in the inner surface of the block receive and support glass panes 34. A retainer strip 35 of spring steel substantially of L-shape cross-section is provided with a horizontal section 36 interposed between the block 31 and the ledge 28 and ending in a finger 37 which interlocks with the offset portion 29 of the ledge. A vertical section 38 contains an offset portion 39 which presses against the block 31 adjacent the inner surface thereof and a flange 40 overlapping the inner surface of the block 31.

The unit as illustrated is very readily assembled. The channel frame is positioned in the permanent structure in which the unit is to be carried, the glass panes are seated within the resilient block and placed in the frame. The lip which extends from the block is lapped over the flange extending from the frame and the retainer strip is moved into place. As the retainer strip is forced into position, it, of course, results in a compression of the resilient block and thus a positive seal of the space between the glass panes is effected. Since the retainer strip automatically locks into the frame the several elements

are combined in a unitary structure, with all the resilient members in compression or under load providing a tight, anti-rattle, glazing unit.

It will at once be apparent that various modifications in the form and arrangement of the several elements of the disclosed construction are possible without departing from the spirit of the invention or the scope of the appended claim.

What I claim is:

A double glazing construction comprising a channel frame, a flange extending inwardly therefrom, a ledge disposed at right angles to the frame, an inwardly extending section formed at the outer edge of the ledge in spaced parallel

relation to the flange, a block of resilient material positioned within the frame, a lip extending from the leading edge of the resilient block and lying over the flange, spaced grooves provided in the resilient block, a plurality of glass panes positioned within the grooves, and a retainer strip substantially of L-shape in cross-section, having a horizontal portion interposed and confined between the resilient block and the ledge and engaging the inwardly-extending section of the ledge, and having a vertical portion compressing the resilient block to seal the edges of the glass panes therein.

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