Nov. 27, 1956 V. I. ZELOV 2,771,643

WINDOW CLOSURE

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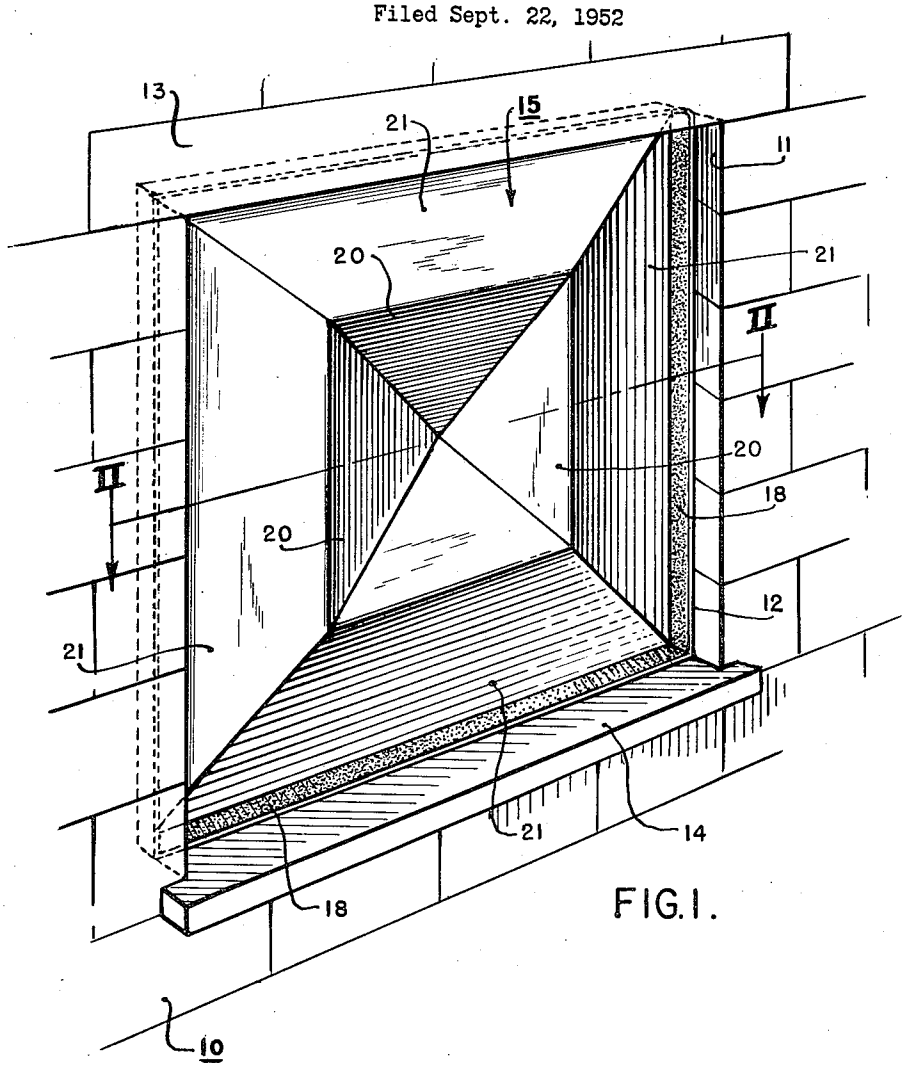


FIG. 1.

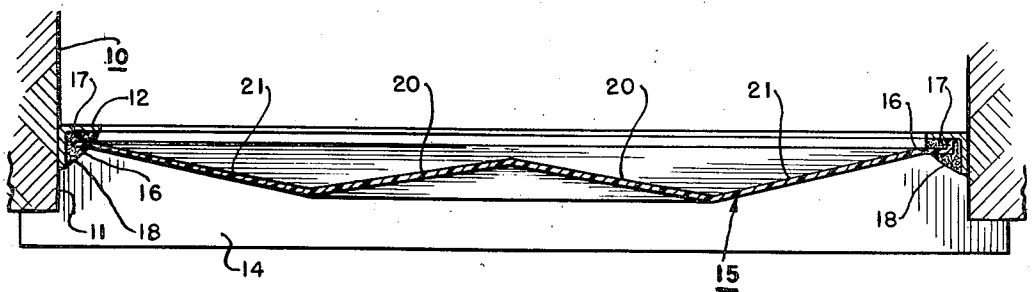


FIG. 2.

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WINDOW CLOSURE

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1 Claim. (Cl. 20—40)

This invention relates to closure members, more particularly to window panes and windows, and has for an object to provide a window pane and windows of novel construction.

Another object of the invention is to provide a plastic window pane so constructed as to expand to more closely grip or engage the window frame upon application of wind or other external pressure thereto.

Yet another object of the invention is to provide a window closure of high structural strength capable of withstanding extremely high wind loads.

The design and construction provides a very high structural strength which permits making larger panes and reducing the cost of the window frames. The design also provides for economical production and the use of plastic materials which will permit of controlled light transmission.

These and other objects are effected by the invention as will be apparent from the following description and claim, taken in accordance with the accompanying drawings, in which:

Fig. 1 is a perspective view of a window pane or closure constructed in accordance with the present invention; and,

Fig. 2 is an enlarged sectional view, taken along the line II—II of Fig. 1, looking in the direction indicated by the arrows.

Referring now to the drawings in greater detail, the reference character **10** indicates a wall having an opening **11** in which is mounted a window frame **12**. The top of the wall opening **11** is defined by the lintel **13** and the bottom of the opening by the sill **14**.

The present invention is concerned with the window closure or pane, indicated in its entirety by the reference character **15**. In the construction illustrated the pane **15** includes a rectangular peripherial portion **16** lying in the plane of the opening **11**, and provided with a flange **17** disposed at right angles to the plane of said peripherial portion **16** and serving to strengthen the latter and to provide secure anchorage of the peripherial portion in the mastic or putty **18**.

The peripherial portion **16** surrounds a main body portion comprising a central pyramidal portion **20** and

an intermediate frusto-pyramidal portion **21**, with the base of the central pyramidal portion **20** coinciding with the top of the intermediate frusto-pyramidal portion **21**. The tops of the two pyramidal portions **20** and **21** extend in opposite directions, so that the slope of the four flat sections comprising the central portion is the opposite of the slope of the four flat sections comprising the intermediate portion, when considered with respect to the plane of the opening **11**.

As best shown in Fig. 2, this construction provides a window pane that is "dished" outwardly in overall section, yet has a central portion "dished" inwardly. This not only produces a novel and pleasing appearance, but effects a high degree of resiliency, permitting the pane to "give" when subjected to high wind pressure. The rectangular peripherial portion **16** actually bows outwardly intermediate its corners under application of pressure to the outer surface of the pane.

By having the central portion **20** of the pane disposed reentrantly with respect to the intermediate portion **21**, the desired "dished" effect is obtained without having any portion of the pane project outwardly from the plane of the opening **11** a distance sufficient to render the window unsightly.

In order to obtain a suitable degree of strength it is recommended that a reinforced plastic be utilized, and the desired reinforcing may be obtained by the use of glass fibers, burlap, jute, etc. in a binding medium of any casting type of thermosetting or thermoplastic resin, such as polyester styrene, diallylpthalete, epoxy resin, etc. By proper selection of reinforcing medium and binding medium, various degrees of light transmission, strength, insulation, resiliency, etc. may be obtained.

While this invention has been illustrated in but one form, it will be apparent to those skilled in the art that other shapes and cross sections can be utilized to obtain the desired results without departing from the spirit thereof.

What is claimed is:

A window closure consisting of a unitary molded sheet of reinforced plastic comprising a rectangular peripherial portion, a frusto-pyramidal intermediate portion, and a reversed pyramidal central portion whose base coincides with the top of the frusto-pyramidal intermediate portion.

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