July 23, 1929. R. COTTON 1,721,770

WINDOW FRAME

Filed June 9, 1928

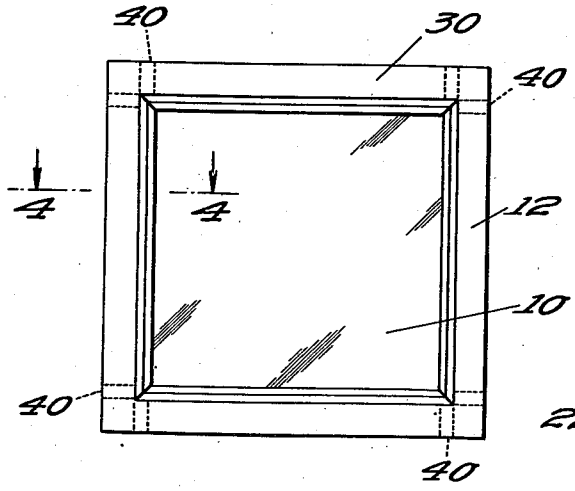



FIG. 1

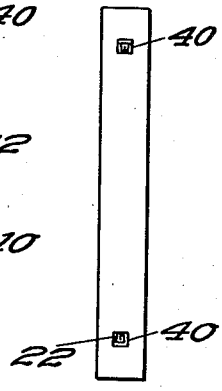



FIG. 2




FIG. 3

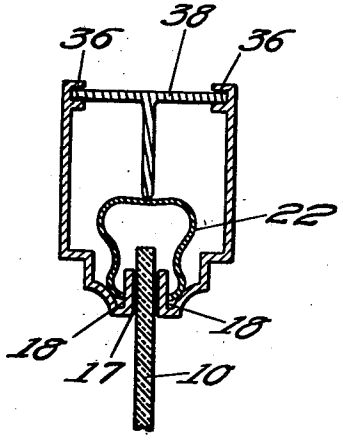



FIG. 5

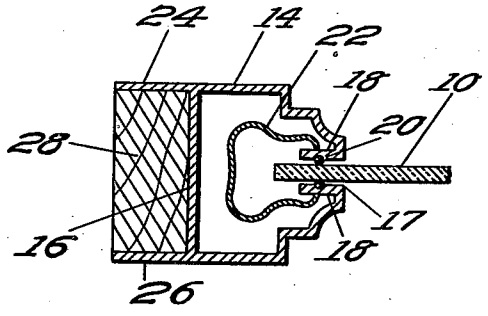



FIG. 4

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# UNITED STATES PATENT OFFICE.

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## WINDOW FRAME.

Application filed June 9, 1928. Serial No. 284,111.

This invention relates to improvements in window frames and has for one of its principal objects the provision of means for holding a window pane in the frame without the use of putty or the like.

One of the important objects of this invention is to provide a metal window frame into which a glass pane can be readily inserted and positively retained; a frame which will not warp or swell in the presence of moisture or other deteriorating weather conditions, and which can be economically manufactured and marketed and conveniently installed.

One of the chief disadvantages of the ordinary window frame is the extreme care which must be taken in cutting the glass to fit the frame, and to accurately cut the glass to fit a warped window frame is at best a considerable task. If the pane is cut just a trifle too large, and a change in weather conditions occurs, the glass having very little or no room to expand, is bound to crack.

Another important object of the invention is the provision of means in a window frame, for allowing a free and untrammeled expansion or contraction of the glass to take place and yet firmly hold the same against rattling and vibrating, and also rendering the same water and air tight.

Other and further important objects of the invention will be apparent from the disclosures in the accompanying drawings and following specification.

The invention, in a preferred form, is illustrated in the drawings and hereinafter more fully described.

In the drawings:

Figure 1 is a front elevation of the improved window frame.

Figure 2 is a side elevation of the device as shown in Figure 1, illustrating in particular the apertures for the insertion of the glass gripping clamps.

Figure 3 is a top plan view of the upper rail of the window frame.

Figure 4 is an enlarged sectional view taken on the line 4—4 of Figure 1.

Figure 5 is an enlarged sectional view of a modification of the upper rail of the invention.

As shown in the drawings:

The reference numeral 10 indicates generally the usual glass window pane mounted in an improved window frame 12. Both sides of the said frame and also the bottom rail are of a cross-section as shown best in Figure 4.

The three aforementioned portions of the frame 12 are constructed in the form of a hollow casing 14, closed at one side by an integral wall 16, and in the other side of which is a slot 17 formed by two inwardly extending edges 18 between which the pane 10 is adapted to be held. A strip of resilient material 20, such as rubber or the like, is normally positioned between each portion 18 and the edge of the glass within the slot. A resilient clamp 22 U-shaped in cross section is positioned within the casing 14, the edges of which are adapted to bear upon the portions 18, thereby firmly clamping the said portions upon the edge of the pane. Elements 24 and 26 integral with the casing 14 extend outwardly therefrom at right-angles to the wall 16 and form a channel therewith. In this channel a filler 28, preferably of wood, is positioned.

An upper rail rail 30 of the frame 12 is constructed slightly different from the other three sides of the frame, as shown best in Figure 3, a slot 42 being provided at its top for the insertion or removal of the pane 10. The remaining features of the rail 30 are the same as the other three sides. Access is had to all the clamps 22 by means of openings 40 provided in the sides, top and bottom of the frame 12 as shown best in Figures 1 and 2.

A modification of the upper rail is shown in Figure 5. Each of the lateral walls 32 and 34 of the rail is provided with a guide 36 at its upper end, into which a T sectioned member 38 is slidably positioned. The staff of the said member extends downwardly from the cross portion and is adapted to contact with the upper portion of the resilient clamp 22, thereby compressing the open edges of the same upon the inwardly extending members 18 and, in turn, firmly holding the pane 10 in the slot 16. To remove or replace the pane 10, the member 38 is simply slid longitudinally in the grooves 36; the clamp 22 is then removed and the pane can be inserted or removed as the case may be.

It is apparent that herein is provided a window frame which will hold a glass pane firmly, will allow free expansion and contraction of the glass, and which will eliminate the tedious task of puttying and the consequential delay in waiting for the putty to set, and also eliminate the necessity of repainting the newly puttied edges. In addi-

tion a neater frame is provided, one which is extremely strong and one from which any warping tendencies are absent.

I am aware that many changes may be made and numerous details of construction varied throughout a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted hereon otherwise than as necessitated by the prior art.

I claim as my invention:

1. A window frame, including in combination, a plurality of hollow casings successively joined at their ends to form a rectangle, each of the inner edges of the said casings being provided with a slot into which a window pane is adapted to fit and means within each casing for clamping the edges of the pane in the slots, said means comprising a plurality of substantially tubular longitudinally open resilient members, each casing being provided with a plurality of transverse openings for the insertion or removal of the said resilient members.

2. A window frame, including in combination, a plurality of hollow casings successively joined at their ends to form a rectangle, each of the inner edges of the said casings being provided with a slot into which a window pane is adapted to fit and means within each casing for clamping the edges of the pane in the slots, said means comprising two inwardly turned juxtaposed portions integral with the inner edges of the casing forming a lining for each slot, and means for intimately contacting each inwardly turned portion with each side of the edge of the pane, said means including a plurality of substantially tubular resilient members each having a longitudinal opening therein into which each pair of inwardly turned members are adapted to be inserted, and means for inserting the window pane within the frame.

3. A window frame, including in combination, a plurality of hollow casings successively joined at their ends to form a rectangle, each of the inner edges of the said casings being provided with a slot into which a window pane is adapted to fit and means within each casing for clamping the edges of the pane in the slots, said means comprising two inwardly turned juxtaposed portions integral with the inner edges of the casing forming a lining for each slot, and means for intimately contacting each inwardly turned portion with each side of the edge of the pane, said means including a plurality of substantially tubular resilient members each having a longitudinal opening therein into which each pair of inwardly turned members are adapted to be inserted, and means for inserting the window pane within the frame, said means comprising a slidable top on the upper casing of the frame and means integral with the inner side of the slidable top for compressing the said tubular resilient member.

In testimony whereof I affix my signature.

ROY COTTON.