

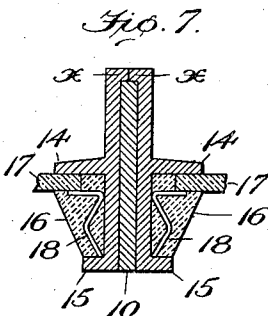
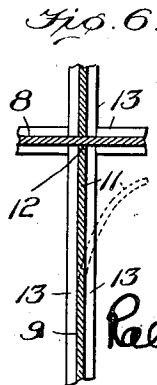
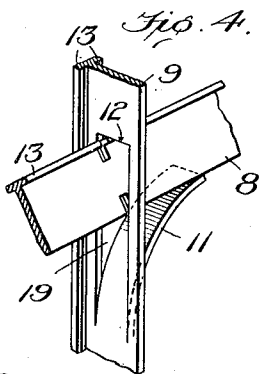
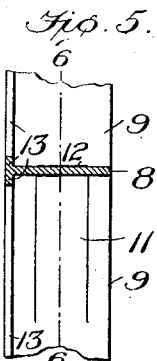
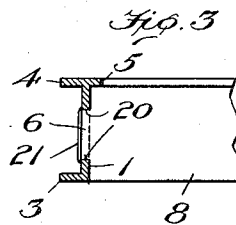
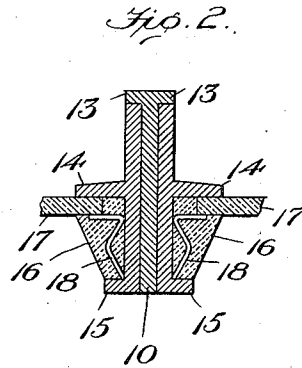
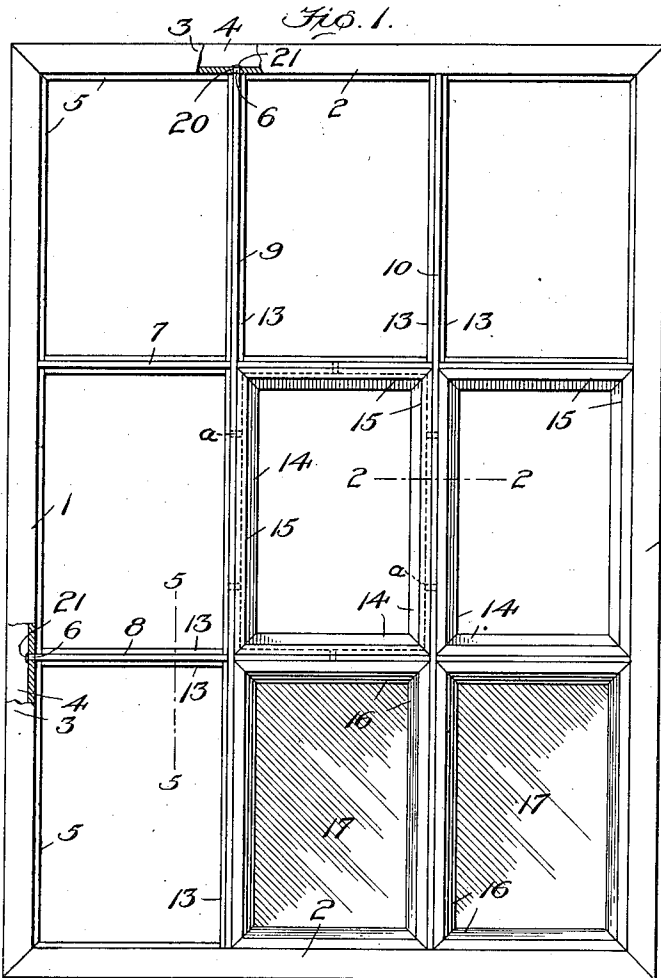
R. W. HOLLAND.

WINDOW FRAME.

APPLICATION FILED JAN. 12, 1912.

1,053,129.

Patented Feb. 11, 1913.



Witnesses

Edwin L. Bradford
M. D. Ballouf

By

Inventor
Ralph W. Holland.

Wm. E. Dyer,
Attorney

UNITED STATES PATENT OFFICE.

RALPH W. HOLLAND, OF YOUNGSTOWN, OHIO, ASSIGNOR OF ONE-HALF TO LEONARD PRATT, OF YOUNGSTOWN, OHIO.

WINDOW-FRAME.

1,053,129.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed January 12, 1912. Serial No. 670,818.

To all whom it may concern:

Be it known that I, RALPH W. HOLLAND, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Window-Frames; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to fireproof window frames, and has for its object the production of a metallic frame of structural iron comprising intersecting and interlocking members arranged and adapted to produce an exceedingly light, durable and artistic appearance.

The invention has for a further object simplicity and economy of construction, and a general interchangeability of parts, a feature which greatly facilitates assembling and renders unnecessary the employment of skilled labor in the process.

The invention will be hereinafter described and particularly pointed out in the claims following.

In the accompanying drawings which form part of this application and whereon corresponding numerals refer to like parts in the several views, Figure 1 is a front elevation of one complete frame partially glazed. Fig. 2 is a horizontal section, relatively enlarged, on the line 2—2, Fig. 1. Fig. 3 is a fragmentary plan view, also enlarged, of one horizontal frame member or sash bar, and a sectional view of one vertical frame member at point of connection. Fig. 4 is a fragmentary view in perspective of two intersecting frame members showing method of assembling. Fig. 5 is a side view of parts shown by Fig. 4 after assembling. Fig. 6 is also a sectional and fragmentary view of intersecting members taken at right angles to Fig. 5. Fig. 7 is a horizontal sectional view showing modified glass securing means.

Reference being had to the drawings and numerals thereon, 1, 1 indicates the vertical, and 2, 2 the horizontal frame members preferably mitered at their four corners and welded or otherwise secured to collectively form a surrounding outer frame or border, as shown by Fig. 1. The said members are flanged outwardly upon both front and

back edges as at 3, 4 for purposes of rigidity, and inwardly at 5 opposite the flange 4 for purposes later to appear. These frame members are also slotted transversely at equidistant points between the flanges 3, 4 to receive the reduced ends 6 of intersecting sash bars 7, 8 and 9, 10. The said bars 9 and 10 at equidistant and appropriate points, are each provided with tongues 11 formed by cuts extending longitudinally from transverse slots 12, and are adapted to be flexed, as indicated by Fig. 4, to permit the insertion of cross bars 7 and 8 in their respective slots 12, and adapted also to hold said cross bars rigidly when again bent into their normal plane. All of the intersecting bars 7, 8, 9 and 10 more or less, constituting a double series are substantially T-shape, having a rear flange 13 extending upon opposite sides of their longitudinal centers as shown by Figs. 1, 2, 4 and 5. Into each rectangular sash opening formed by the said intersecting sash bars are snugly fitted and spot welded or riveted as shown at *a* Fig. 1 auxiliary or individual window-light frames, also of metal, having mitered corners, and resting against the inwardly-extending rear-flanges 5 and 13 aforesaid which limit the inward movement thereof. These auxiliary frames, for the reception of glass, each have an inwardly projecting centrally arranged, surrounding flange 14 against which the glass rests, and a similar, though less pronounced flange 15 upon their outer edges, these flanges 14 and 15 being adapted to receive putty or similar pliable self-hardening material 16 ordinarily employed in glazing windows, to assist in retaining the glass, or transparent lights 17, in place while embedded in such material are flexible springs or clips of sheet metal such as 18 to hold the glass 17 in position during the glazing operation, and to assist in retaining it there.

This being a description of the structural features of my invention the parts may be readily assembled substantially as follows: All of the tongues 11 are flexed out of their normal planes as indicated by Fig. 4, sash-bars 7 and 8 being inserted through their respective spaces 19 as shown by said figure and brought to a right angular position with relation to the bars 9 and 10 as indicated by Fig. 6, their upper surfaces resting against the inflexible side of their respective trans-

verse slots 12. Tongues 11 are thereupon forcibly returned to normal position, in the plane of their respective vertical bars 9, 10, where they serve to quickly and effectually secure the said intersecting bars in operative relation. A surrounding frame is next applied, the reduced or shouldered outer extremities 6 entering transverse slots 20 of said outer frame members, and being there upset or riveted over as at 21, Figs. 1 and 3, the mitered corners of said frame members 1, 1, and 2, 2 being finally welded or otherwise secured together. The auxiliary frames heretofore described, are next introduced and secured in the individual spaces formed by the intersecting sash-bars, each followed by a suitable light of glass or analogous material, resting upon the median flange 14, where it is first retained by pressure of the spring clips 18, and finally secured by putty or similar material.

By Fig. 7 is shown one modified form of sash-bar and auxiliary-frame-members, the double rear-flange, or T-edge, of this bar being omitted and the adjacent auxiliary-frame members having oppositely disposed rear flanges x, x , serving to limit the forward movement thereof when introduced into the structure from the back. In like manner various other changes and modifications will present themselves to persons skilled in the art, and to all such equivalent arrangements I lay claim the same as if they had been hereinbefore set forth and described.

Having thus described my invention in

the best form of construction at present known to me, what I now claim and desire to secure by Letters Patent is:

1. In a window construction the combination with an outer inclosing frame, of a double series of intersecting sash bars each bar of one series provided with equidistant transverse slots and cuts extending longitudinally from one side thereof forming flexible tongues, each bar of the other of said series resting against the inflexible side of its respective transverse slots aforesaid thereby dividing said frame into a plurality of sash openings, and an individual window-light frame closely fitting each of said openings.

2. In a window construction the combination with an outer inclosing frame, of a double series of intersecting sash bars each bar of one series provided with equidistant transverse slots and cuts extending longitudinally from one side thereof forming flexible tongues, each bar of the other of said series resting against the inflexible side of its respective transverse slots aforesaid thereby dividing said frame into a plurality of sash openings, an inwardly projecting flange bordering each of said openings, and an individual window-light frame for each opening seated upon the flange aforesaid.

In testimony whereof I affix my signature, in presence of two subscribing witnesses.

RALPH W. HOLLAND.

Witnesses:

H. L. WILCOX,

R. H. REYNOLDS.