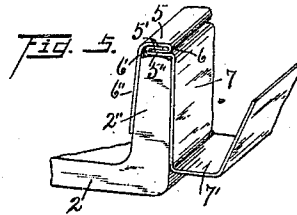
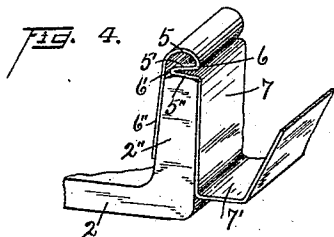
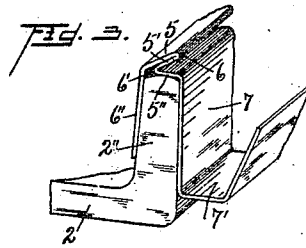
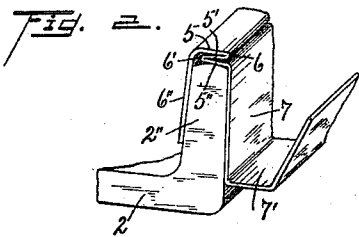
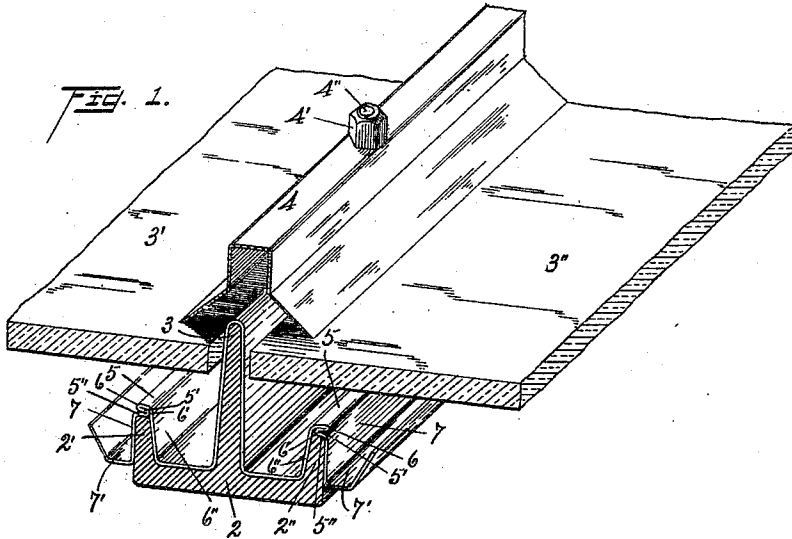


H. T. THOMAS
GLAZED ROOF STRUCTURE.
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979,600.

Patented Dec. 27, 1910.



Witnesses:
Jno. E. Crowley,
C. F. Pierpont

Inventor
Henry T. Thomas
By his Attorney Albert C. Tamm

UNITED STATES PATENT OFFICE.

HENRY T. THOMAS, OF NEW YORK, N. Y.

GLAZED ROOF STRUCTURE.

979,600.

Specification of Letters Patent. Patented Dec. 27, 1910.

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To all whom it may concern:

Be it known that I, HENRY T. THOMAS, a citizen of the United States, and a resident of New York, Manhattan borough, in the county and State of New York, have invented certain new and useful Improvements in Glazed Roof Structures, which improvements are fully set forth in the following specification.

10 This invention relates to improvements in roof-structures, and particularly to glazed roof-structures wherein are embodied so-called glazing-bars or astragals for supporting panes of glass; and its object is to provide a roof-structure of the character above indicated, which shall be durable, efficient and reliable in practical service; which shall embody novel features pertaining to the seating of the panes of glass made use of; and which shall possess certain well-defined advantages over prior analogous constructions.

25 The invention consists in the combinations, details and parts whereby, together with the novel disposition and relative arrangement of said parts, the attainment of the foregoing object is rendered practicable, all of which will be hereinafter more specifically referred to and set forth in the appended claims.

The invention is clearly illustrated in the accompanying drawings, wherein similar reference numerals denote like parts throughout the respective views, in which:

35 Figure 1 is a view in perspective of a fragment of a glazed roof-structure embodying my said improvements. Fig. 2 is a detail end elevation of a fragment of the construction shown in Fig. 1, the scale being enlarged. Fig. 3 is a view similar to Fig. 2, showing the cushion which I make use of with certain of its constituent members tilted somewhat upwardly, as the same may appear prior to the application of said cushion to practical purposes. Fig. 4 is a view similar to Fig. 3, showing said cushion with its summital constituent member arched somewhat upwardly, as the same may appear prior to the application of said cushion to practical purposes. Fig. 5 is a view similar to Fig. 2, showing a slight modification of said cushion.

50 In a general sense my present invention comprises a medium for cushioning a pane of glass on the upright side-flange of an astragal, said medium being interposed be-

tween said side-flange and said pane of glass, yieldable, mainly within the plane of said side-flange, for conformation to the surface, whether regular or irregular, of the glass contacting therewith, and correspondingly providing a continuous seat for said pane of glass.

60 In carrying out my invention, reference being had to the accompanying drawings, I make use of an astragal 2, having opposite side-flanges 2', 2'', rising upwardly therefrom, and a central, upright web 3, arranged midway between said side-flanges; panes of glass 3', 3'', normally tending, by their own gravity, to seat, respectively, on the side-flanges 2', 2'', at the upper edges thereof; and a cap 4, which straddles the web 3, and bears at its opposite edges on the adjacent margins of said panes of glass, said cap being held in position by nuts 4', carried by tie-bolts 4'', which project at intervals along and upwardly from the web 75 aforementioned, through the cap 4, and are duly threaded, each to receive one of said nuts, all as in common practice. I further interpose between the upper edges of the side-flanges aforementioned, respectively, and the panes of glass thereon, a cushion, yieldable, as herebefore stated, for conformation to the surface of the glass contacting therewith, and correspondingly providing a continuous seat for said pane of glass, said cushion being here shown as approximately in character the form of a plicated bead, and comprising a base member 5'' and a summital member 5, integrally connected, at the reverse edges, as 6, 6'', thereof, by an intermediate member 5'.

85 The cushion aforementioned, and of which connected members aforementioned essentially constituting the same, is formed by appropriately folding longitudinally and approximately upon itself, a strip of yieldable material, preferably copper, zinc or aluminum, in thin sheet-form. One of the cushion members aforementioned, as 5 or 5'', is extended slightly beyond its neighbor or neighbors, and merged into a down-turned sheathing or facing segment for either the inner or outer face of the adjacent side-flange of the astragal, as the user may elect. However, as illustrated in the drawings, I contemplate accordingly extending the cushion member 5 and merging the same into a down-turned facing segment 6'', which serves, in practice, the dual purposes of

shielding the cushion proper aforementioned, at one side thereof, and more or less of the inner face of the adjacent side-flange of the astragal.

5 The segment 6'' may terminate at any desired point within the adjacent astragal channel, although I purpose to continue the same across the base of said channel, upwardly along the adjacent face of the web 3,
10 across the top thereof, downwardly along the opposite face thereof, across the base of the opposite astragal channel, thence upwardly along the inner face of the opposite side-flange of the astragal, and merge the
15 same into a cushion corresponding to the cushion first herein referred to, said segment, accordingly, conforming to and shielding the entire top surface of said astragal, between the side-flanges thereof.
20 Again, I contemplate correspondingly extending the member 5'', and merging the same into a down-turned facing segment 7, which serves to shield the outer face of the adjacent side-flange of the astragal; and,
25 by preference, this segment 7, is in turn merged at its lower portion into a condensation gutter 7', which runs parallel with the astragal aforementioned, at one side thereof, and is inclined accordingly, this gutter feature of the construction being produced by
30 turning the segment 7 laterally and thence somewhat upwardly, as clearly indicated in the drawings.

Where both of the segments 6'' and 7 are
35 employed, the same projecting uniformly as to direction from the cushion proper aforementioned, and occupying suitably-spaced, parallel planes, they serve to engage the adjacent side-flange of the astragal after the
40 manner of a clip; and, during the erection of the structure, facilitate the adjustment of said cushion for service and its retention in position on the side-flange of said astragal.

45 The cushions for the opposite side-flanges of the astragal, with or without the outer facing segments thereof, may be formed from a strip of material of sufficient width to extend along and form a facing or lining
50 adapted to shield the entire top surface of the astragal aforementioned, between the side-flanges thereof, with said cushions overlying the upper edges of said side-flanges, respectively, all approximately as hereinbefore
55 specified; or, each cushion may be formed from a strip of material of sufficient width to provide one or both of the segments 6'', 7, as may be found desirable in practice. Again, the constituent members of the cushion aforementioned, prior to the placing of
60 the glass on said cushion, may vary widely in the matter of cross-sectional contour, or normal position, each as compared with the cross-sectional contour or normal position of its neighbor, or any of its neighbors. For

example, as shown in Fig. 3, the member 5'' assumes, approximately, a horizontal position, while its neighbors 5, 5', are jointly tilted somewhat upwardly therefrom; and, as shown in Fig. 4, the members 5', 5'', 70 jointly assume, approximately, a horizontal position, while the member 5 is arched somewhat upwardly therefrom, and hence varies in cross-sectional contour as compared with the cross-sectional contour of either of the 75 members 5', 5''.

In the modification shown in Fig. 5, the member 5' may be assumed to have been severed centrally and longitudinally, thereby forming reversed portions, hook-like in cross- 80 section, which freely interengage each other under normal conditions, and whereby one hook-like portion may be readily detached from the other hook-like portion, as will be clearly understood. This feature of my improved construction will be found advantageous where it is preferred to form the segment 7, with the gutter 7' conjoined therewith, separate from the segment 6'', with the cushion conjoined with the latter. 90

The cushion aforementioned, when applied for service, overlies and extends along the upper edge of the side-flange of the astragal 2, with a facing segment, as 6'' or 7, projecting downwardly therefrom, or opposite facing segments, as 6'' and 7, projecting downwardly therefrom along suitably-spaced parallel planes, one or more of the constituent members of said cushion being more or less separated from the other or others, as indicated in Figs. 3 and 4, said cushion accordingly, and to all intents and purposes, being situated and performing its function mainly within the plane of said side-flange. 95
A pane of glass is then placed in position flatwise on said cushion, with the result that the latter, under the weight, and for conformation to the contacting surface of, the glass placed thereon, yields and provides, mainly within the plane of said side-flange, a continuous seat for said pane of glass. 100

While, in the formation of the cushion aforementioned, I prefer to employ copper, zinc, aluminum, or a material of similar character, in thin sheet-form, it is evident that a 115 thicker material, as of the character of lead, in sheet-form, may also be used to serve the purposes intended.

Attention is here called to the fact that under no conditions of the cushion aforementioned, whether continuously and uniformly depressed, as where the surface of the glass contacting therewith conforms to a true plane, or more or less depressed at varying intervals therealong, as where the surface of 120 the glass contacting therewith is irregular, is there an open space left in my improved cushion by way of which cinders, or the like, may freely pass from either side of said astragal flange to the other side thereof; and 130

the lodgment of cinders, or similar foreign substances, between the constituent members of said cushion is further largely prevented by the employment of the shielding segment 6".

It will be seen that my improved glazed roof structure is well adapted for the purposes for which it is intended, and further that the same may be modified to a considerable extent, particularly as regards the number of the constituent, connected members comprised in the cushion aforementioned, the cross-sectional contour of any of such members, the relative normal position of each with respect to its neighbor or any of its neighbors, and various minor details of the general construction, without departing from the spirit and principle of my invention.

I claim:

1. A glazed roof-structure comprising an astragal having a side-flange; a plicate cushion extending along the upper edge of said side-flange, and yieldable mainly within the plane thereof, the summital member of said cushion being merged into a facing segment, which projects downwardly therefrom and shields said cushion, at one side thereof, and likewise shields more or less of the adjacent face of the side-flange aforementioned; and a pane of glass on said cushion.

2. A glazed roof-structure comprising an astragal having a side-flange; a plicate cushion extending along the upper edge of said side-flange, and yieldable mainly within the plane thereof, the summital member of said cushion being merged into a facing segment, which extends downwardly therefrom and shields said cushion and said side-flange at one side thereof, and the base member of said cushion being merged into a facing segment which extends downwardly therefrom and shields said side-flange at the opposite side thereof.

3. A glazed roof-structure comprising an astragal having a side-flange; a plicate cushion extending along the upper edge of said side-flange, and yieldable mainly within the plane thereof, the base member of said cushion being merged into a facing segment, which projects downwardly therefrom, shields more or less of the adjacent face of the side-flange aforementioned, and carries at its lower portion a condensation gutter; and a pane of glass on said cushion.

4. A glazed roof-structure comprising an astragal having a side-flange; a cushion, approximating the form of a plicated bead and extending along the upper edge of said side-flange, said cushion having segments projecting therefrom and engaging, after the manner of a clip, the side-flange aforementioned, at the opposite sides thereof, and being yieldable mainly within the plane of said side-flange; and a pane of glass on said cushion.

5. For a glazed roof-structure, a cushion, approximating the form of a plicated bead, the summital member thereof being merged into a down-turned segment adapted to shield one side of said cushion.

6. For a glazed roof-structure, a cushion, approximating the form of a plicated bead, the base member thereof being merged into a down-turned segment which, in turn, is merged into a condensation gutter.

7. For a glazed roof-structure, a cushion, approximating the form of a plicated bead, and having segments projecting therefrom along suitably-spaced, parallel planes, said segments accordingly approximating the character of a clip.

8. For a glazed roof-structure, a metallic cushion comprising a base; opposite sections projecting downwardly from the plane of said base, and approximating the character of a clip; and an additional portion, the latter integrally connected with, and projecting directly and more or less upwardly from one of the side edges of, said base, and being yieldable essentially over and downwardly in the direction thereof.

9. A glazed roof-structure comprising an astragal having an upstanding side-flange; a cushion on said side-flange, and a pane of glass on said cushion, the latter comprising opposite sections engaging and shielding more or less the opposite sides of said side-flange, and three portions, one overlying another and both overlying the third, which third member constitutes a base which engages the top of said side flange and supports the cushion and the glass on and directly over the top surface of said side-flange.

HENRY T. THOMAS.

Witnesses:

ROBERT THOMPSON,
A. W. KURZ.