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A. BENDELE

2,149,385

PANE FASTENER

Filed June 3, 1936

Fig. 1

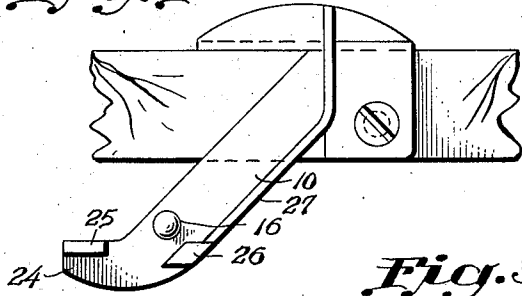


Fig. 2

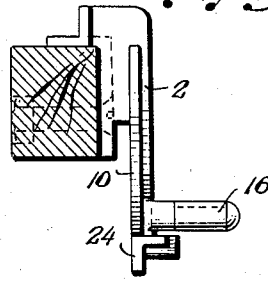


Fig. 3

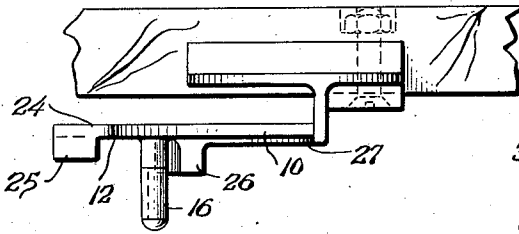


Fig. 4

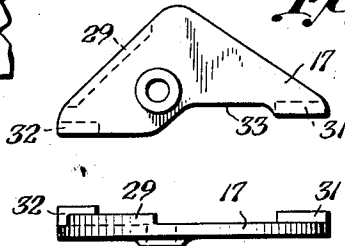
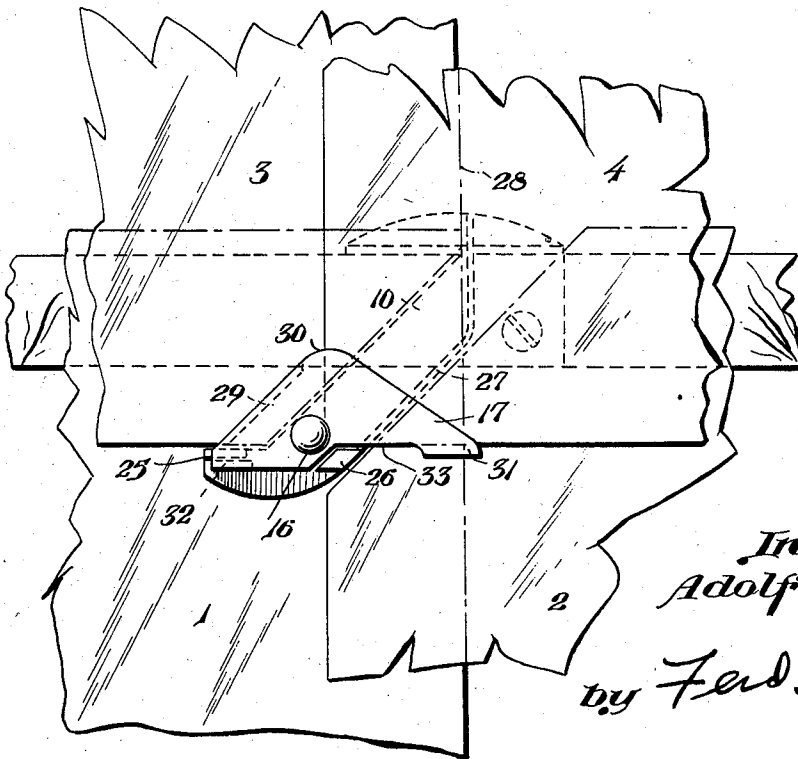


Fig. 6

Fig. 5



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UNITED STATES PATENT OFFICE

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PANE FASTENER

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Application June 3, 1936, Serial No. 83,313
In Germany November 1, 1934

4 Claims. (Cl. 108—10)

This invention relates to a pane fastener for four superimposed glass plates two of which extend in a single plane, with their mating corners cut away at an angle to their edges and arranged in parallel and spaced relation to each other. It is an object of the invention to provide a fastener which facilitates the draining of rain water by so arranging the parts of the fastener and of a pane-holding plate connected thereto that the water is nowhere backed up.

To this end, the fastener, besides being equipped with a flange for engaging the top of a purlin, and a lug at right angles to the flange for engaging the front side of the purlin, has a web arranged at an angle to the flange, spaced from the lug for the thickness of a pane and adapted to enter the space between the said cut-away corners. The thickness of the web is less than that of a pane so that as the web is placed between the corners, a drain passage is defined by the web and the uppermost pane. For spacing the uppermost pane from one of the panes that are in a single plane, a rib is provided at the lower edge of the web, the depth of the rib plus the thickness of the rib being equal to the thickness of a pane. This pane and the uppermost pane are supported by a pair of spaced projections arranged on the lower end of the web at the same side as the rib so that the water flows freely between the two projections.

Similar spaced projections or fingers are arranged at the inner side of the pane-holding plate.

In the accompanying drawing a fastener embodying the invention is illustrated by way of example.

Fig. 1 is an elevation of the fastener attached to a purlin.

Fig. 2 is an end elevation of the fastener, viewed from the left in Fig. 1.

Fig. 3 is a plan view of Fig. 1.

Fig. 4 is an elevation, and

Fig. 5 is a plan view, of a pane-holding plate.

Fig. 6 is an elevation showing the four panes, the fastener and the holding plate assembled.

Referring now to the drawing, 9 is a purlin, and 19 is a flange at the upper end of the fastener which is placed on the top of the purlin and is surmounted by a crest 21. A lug 22 for engaging the front side of the purlin and an inclined web 10 are cast integral with the flange 19 and the crest 21. The lug 22 is secured to the purlin by any suitable means, such as a screw 34.

The panes 2 and 3, Fig. 6, are in a single plane and their mating corners are cut away at an angle of 45 degs. The cut-away corners define a space 55 between the panes 2 and 3 for the reception of the

web 10. 1 is the lowermost, and 4 is the uppermost pane.

The inner face of the web is spaced from the lug 22 for a distance 23 equal to the thickness of a pane, and the thickness of the web 10 is about half that of the glass panes. At its lower end, the web 10 has an extension 24 of the same thickness as the web which has outwardly directed projections 25 and 26. The projection 25 supports the glass pane 3 in vertical direction, whereas the projection 26 lies between the cut-away corners of the panes 2 and 3 and in conjunction with a screw bolt 16 on the web 10 supports the corner of the pane 4. The extension 24 and the projections 25 and 26 thereon form a channel for the draining of the water.

The web 10 has an outwardly projecting rib 27 extending along its lower edge in upward direction from the projection 26, making up the depth of the web, as described, and at its upper end extends vertically as far as the upper end of crest 21 in alignment with the vertical edge 28 of the pane 3.

The pane holding plate 17 is of substantially triangular shape and has on one of its sides a downwardly bent rib 29 forming with the cut-away corner of the pane 4 a passage to allow the water to flow off. There are also two inwardly extending fingers 31 and 32, one at each end of the base of the plate 17. The finger 31 supports the pane 4 in vertical direction and holds down the pane 2. The projection 25 of the extension 24 bears against the finger 32 on the plate, whereas the projection 26 engages a recess 33 in the base of the plate.

It will appear that any water penetrating to the point of juncture is immediately conducted off.

I claim:—

1. A pane fastener for four superimposed glass plates, two of which extend in a single plane with their mating corners cut away at an angle to their edges and arranged in parallel and spaced relation to each other, comprising a flange for engaging the top of a purlin, a lug for engaging its upper side, a web arranged at an angle to the flange spaced from the lug for the thickness of a pane and adapted to enter the space between the said cut-away corners, the thickness of the web being less than that of a pane, a rib at the lower edge of the web, the depth of the rib plus the thickness of the web being equal to the thickness of a pane, a pair of spaced projections arranged on the lower end of the web for supporting, respectively, one of the panes which are in a single plane and the uppermost pane, a pane-holding plate, and means for holding the plate against the uppermost pane.

2. A pane fastener for four superimposed glass plates, two of which extend in a single plane with their mating corners cut away at an angle to their edges and arranged in parallel and spaced relation to each other, comprising a flange for engaging the top of a purlin, a lug for engaging its upper side, a web arranged at an angle to the flange, spaced from the lug for the thickness of a pane and adapted to enter the space between the said cut-away corners, the thickness of the web being less than that of a pane, a rib at the lower edge of the web, the depth of the rib plus the thickness of the web being equal to the thickness of a pane, an extension at the lower end of the web arranged to project beyond the lower edge of one of the panes which are in a single plane when the fastener is in position, a pair of spaced projections, one arranged on the extension and one on the lower end of the web, the first of said projections being positioned to be outside the space between the said cut-away corners and to support one of the panes which are in a single plane, and the other being arranged to be inside the space and to support the uppermost pane, when the fastener is in position, a pane-holding plate, and means for holding the plate against the uppermost pane.

3. A pane fastener for four superimposed glass plates, two of which extend in a single plane with their mating corners cut away at an angle to their edges and arranged in parallel and spaced relation to each other, comprising a flange for engaging the top of a purlin, a lug for engaging its upper side, a web arranged at an angle to the flange, spaced from the lug for the thickness of a pane and adapted to enter the space between the said cut-away corners, the thickness of the web being less than that of a pane, a rib at the lower edge of the web, the depth of the rib plus the thickness of the web being equal to the thickness of a pane, a pair of spaced projections arranged on the lower end of the web for supporting, respectively, one of the panes which are

in a single plane, and the uppermost pane, a pane-holding plate, spaced fingers on the inner side of the plate, and means for holding the plate against the uppermost pane with the fingers bearing on the web and the panes in a single plane.

4. A pane fastener for four superimposed glass plates, two of which extend in a single plane with their mating corners cut away at an angle to their edges and arranged in parallel and spaced relation to each other, comprising a flange for engaging the top of a purlin, a lug for engaging its upper side, a web arranged at an angle to the flange, spaced from the lug for the thickness of a pane and adapted to enter the space between the said cut-away corners, the thickness of the web being less than that of a pane, a rib at the lower edge of the web, the depth of the rib plus the thickness of the web being equal to the thickness of a pane, an extension at the lower end of the web arranged to project beyond the lower edge of one of the panes which are in a single plane, when the fastener is in position, a pair of spaced projections, one arranged on the extension and one on the lower end of the web, the first of said projections being positioned to be outside the space between the said cut-away corners and to support one of the panes which are in a single plane, and the other being arranged to be inside the space and to support the uppermost pane, when the fastener is in position, a pane-holding plate, a finger on the inner side of the plate arranged to engage below the outside projection on the extension, another finger, also on the inner side of the plate spaced from the first-mentioned finger for engaging below the lower edge of the uppermost plate, the edge of the plate between the fingers being cut away for the projection within the said space, and means for holding the plate against the uppermost pane with the fingers bearing on the web and the panes in a single plane.

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