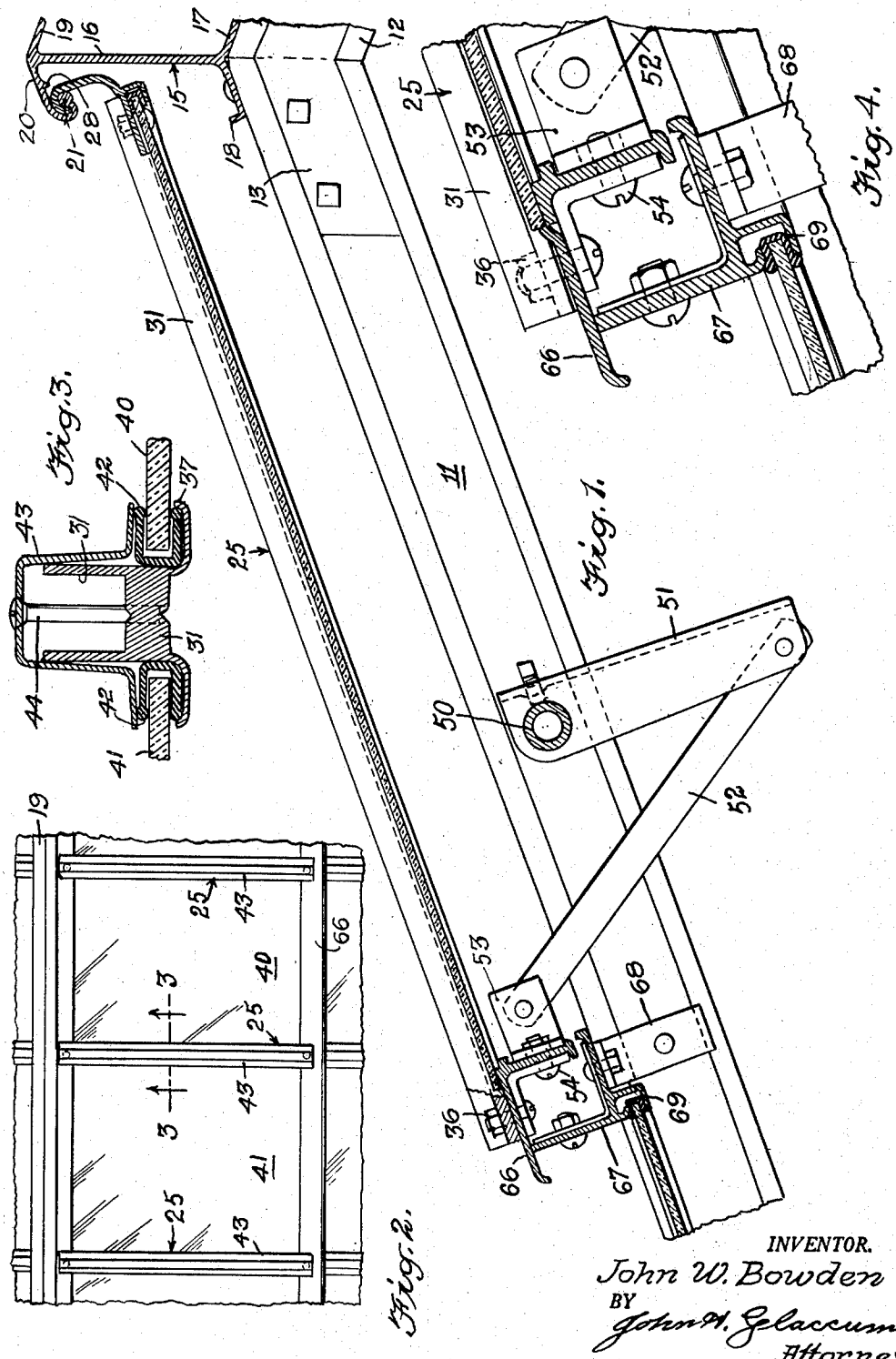
Aug. 6, 1957 J. W. BOWDEN 2,801,600

RIDGE AND SASH STRUCTURE

Filed July 31, 1953 3 Sheets-Sheet 1



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RIDGE AND SASH STRUCTURE

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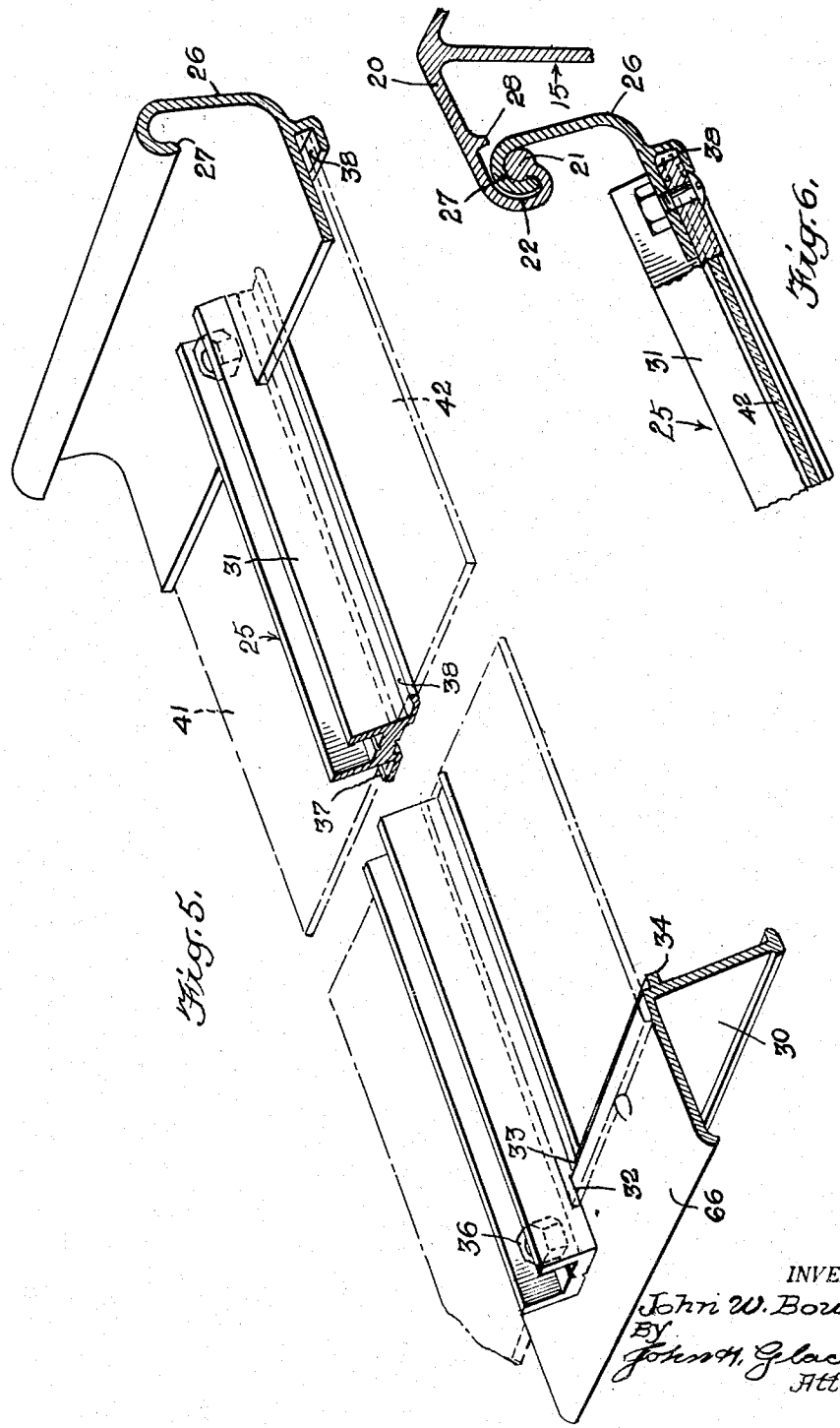


Fig. 5.

Fig. 6.

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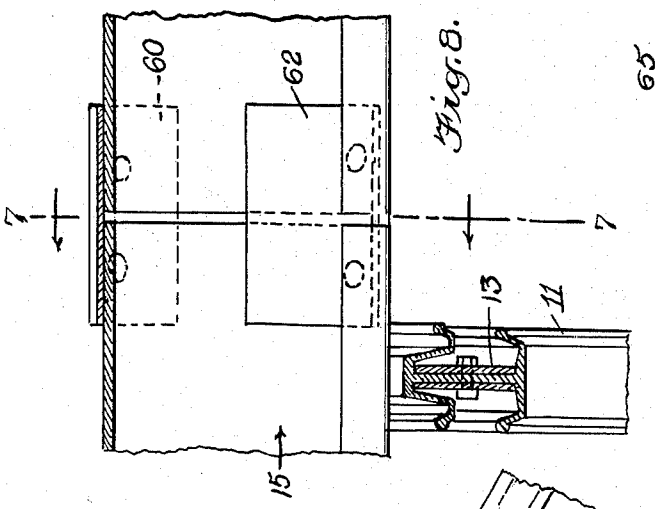


Fig. 8.

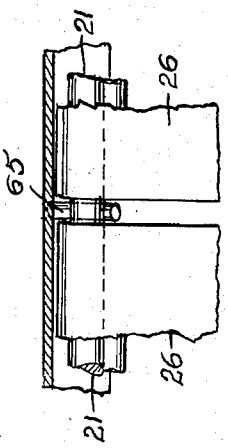


Fig. 9.

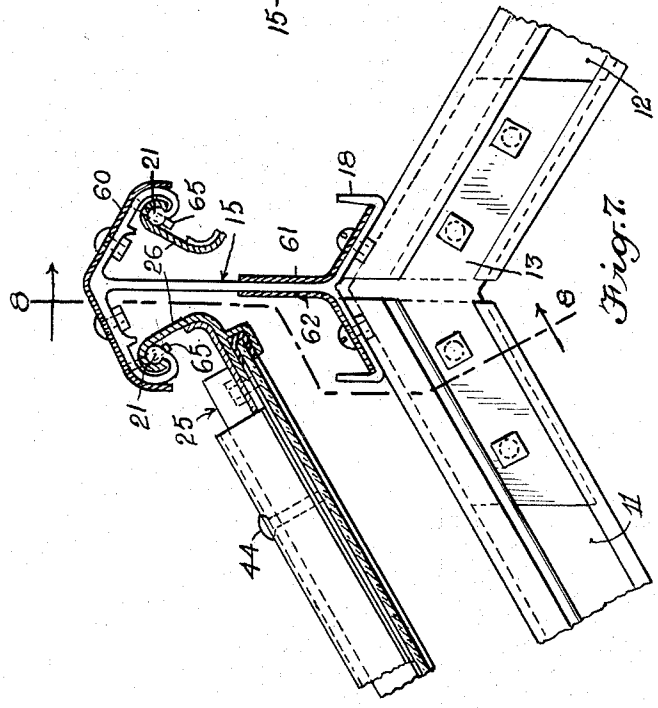


Fig. 7.

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RIDGE AND SASH STRUCTURE

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6 Claims. (Cl. 108—16)

This invention relates to a building construction and more particularly to a ridge and sash structure. While not limited to such use, this structure is particularly advantageous in greenhouses and similar buildings where it is desirable to have ventilators along the ridge of the building. In greenhouse construction condensation is always a problem since a single drop of condensation may ruin a valuable plant. Accordingly, my improved structure takes this into consideration and this feature will be discussed further.

In conventional construction sash is normally fastened by means of hinges and wood screws. Due to the continued use and wear these screws work loose and the sash becomes insecure. One of the advantages of my improved construction is that I provide a continuous hinge formed as part of the roof bar which has a continuous bearing surface the full width of the sash and which has no screws to work loose, thus eliminating the maintenance problem.

A further feature of my hinge is that each individual sash may be hinged and removed without undoing any bolts or screws. This means easy erection and easy removal at any time. Where conventional hinges are used there is a continuous opening as the sash opens up between the ridge cap and the sash. As the sash and hinges wear this opening is present when the sash are supposedly closed. In my improved construction there is no opening between the sash and the ridge cap. Because of the large rounded bearing surface used there is no wear.

Other advantages of my construction will become apparent from the accompanying drawings in which:

Fig. 1 is a side elevation partly in section of a ridge bar and sash embodying my invention.

Fig. 2 is a plan view of the sash in place.

Fig. 3 is a cross-sectional detailed view taken on the line 3—3 of Fig. 2.

Fig. 4 is an enlarged detailed section showing the lower end of the sash.

Fig. 5 is a detailed section partly broken away of the sash members.

Fig. 6 is a detailed section of the hinge portion of the sash and ridge bar.

Fig. 7 is a cross-sectional view showing a junction of separate sections of the ridge bars.

Fig. 8 is a view taken on the line 8—8 of Fig. 7.

Fig. 9 is a detailed view showing a method of preventing lateral movement of the respective sashes.

Referring more particularly to the drawings and particularly to Fig. 1, I show a structure wherein roof bars 11 and 12 are joined at the ridge by my splicing plate 13. The ridge bar 15 is provided with a web 16 and base members 17 which are bolted to the roof bars, the members 17 having an upstanding edge 18 which forms a condensation drip gutter so that any condensation will be collected by the gutters and at spaced portions allowed to drain outside the house through weep holes. The

upper portion of the ridge bar 15 has two outwardly extending arms 19 and 20. These arms are curved upon themselves and terminate in a rounded bearing surface 21 to form a channel 22 which constitutes a female hinge member. The sash 25 is provided with a hinge plate 26 which has a curved section 27 to ride in the channel 22. The under portion of the arms 19 and 20 are provided with a small rib 28 which performs several functions. Any condensation forming on the underside of the arm 20 will be deflected by the ridge 28 and caused to run down the hinge member 26 where it will be caught by the gutters 18. Due to the angle of the hinge member 26 any condensation will drop off into the gutters. The member 28 performs a further function in that it prevents the hinge from being accidentally separated while in the normal operating range. However, when the sash is opened a greater than normal distance the hinge may be easily separated.

As will be seen from an examination of Fig. 5 the hinge plate 26 is continuous throughout the width of the sash. The sash 25 is made up of the hinge plate 26 and an angular closing plate 30. These are joined together by channel members 31. The channel members 31 are rabbeted where they join the plate 30 at 32 so that a shoulder 33 engages the glass supporting ledge 34 on the plate 30. The upper portion extends over the surface of the plate and is fastened to the plate by means of nuts 36. These nuts are sealed in the channel member and are prevented from turning by the sides thereof.

At the hinged plate end the members 31 are rabbeted to extend under and over the plate and are likewise fastened by a bolt and nut. The members 31 have glass supporting flanges 37 and these flanges extend under the hinge plate to support the glass under the plate in conjunction with a ledge 38 on the bottom of the hinge plate.

Fig. 3 shows the lights of glass 40 and 41 positioned in prefabricated glazing 42 on the ledge 37. The glazing is then covered with an aluminum bar cap 43 which is fastened to the channel members 31 by a screw 44. This not only protects the glazing compound and the glass but likewise covers the nuts 36 from the weather.

In actual use a shaft 50 is provided with an arm 51 and a lever 52 attached by an angle bracket 53 to the back of the closing plate 30 by means of a bolt 54. When the shaft 50 is rotated the sash will pivot on the hinge members 22 and 21 to open the ventilator. The action of this opening and closing mechanism is normally limited to a point where the hinge will not separate, but when it is desired to remove the sash the opening and closing mechanism is disconnected.

In Figs. 7 and 8 I have illustrated the same structure but at a point where two sections of the ridge bearing have been joined.

While in smaller houses it is practical to have the ridge bar on one single section, in larger houses this is not practical and in order to cover any space between the abutting sections I provide a splicing plate 60 to cover the gap between the sections and additional splicing plates 61 and 62 to cover any gap in the gutter.

Since my hinge is a continuous one the sash can be moved laterally on it unless provision is made to prevent this. This may be easily done by drilling a hole in the bearing surface 21 and inserting a steel pin 65 through said hole to prevent lateral movement of the hinge, all of which is shown in Fig. 9.

The closing plate 30 has an extending member 66 which rests on the angle bar 67 when the sash is in the closed position. The angle bar 67 is bolted to the bracket 68 supported by the roof bar 11 and is provided with a glass receiving section which receives the upper portion

of the light of glass below the sash in the glazing member 69.

I claim:

1. In a greenhouse structure having a ridge bar, a sash mounted on said ridge bar, said sash having a hinge plate engaging the ridge bar, said sash having a closure plate, said closure plate and said hinge plate being joined by a plurality of channel members, said channel members being rabbeted to extend above and below said hinge plate and to abut and extend above said closure plate and being bolted thereto, the nut of each bolt being positioned in the channel portion of said channel members to prevent its turning with relation thereto each of said channel members and said hinge plate and said closure plate having glass bearing surfaces to support glass in said sash.

2. A greenhouse structure having a ridge bar, a sash mounted on said ridge bar, said sash having a hinge plate engaging the ridge bar, said sash having a closure plate, said closure plate and said hinge plate being joined by a plurality of channel members, each of said channel members being rabbeted to extend above and to engage said hinge plate and closure plate and being bolted thereto and each of said channel members and said hinge plate and said closure plate having glass bearing surfaces to support glass in said sash.

3. In a greenhouse structure having a ridge bar, a sash mounted on said ridge bar, said sash having a hinge plate engaging the ridge bar, said sash having a closure plate, said closure plate and said hinge plate being joined by a plurality of channel members, said channel members being rabbeted to extend above and below said hinge plate and to abut and extend above said closure plate and being bolted thereto, the nut of each bolt being positioned in the channel portion of said channel members to prevent its turning with relation thereto, each of said channel members and said hinge plate and said closure plate having glass bearing surfaces to support glass in said sash.

4. In a greenhouse structure having glass supporting roof bars a ridge bar therefor comprising a vertical web, a pair of supporting members at the foot thereof coinciding with the angle of the roof bars and fastened to said roof bars, the ends of said supporting members being bent upwardly to define drip gutters, a pair of arms on the upper end of said web, each of said arms being bent upon itself to form a hinge member comprising a channel terminating in an enlarged rounded bearing surface, a rib on the under side of said arms to prevent condensation from entering said channel, a sash member having a hinge plate with a curved hinge member engaging said channel and bearing surface, said sash member, including said hinge plate and closing plate, being joined by a plurality of channel members, said channel members being rabbeted to extend above and

below said hinge plate and to abut and extend above said closing plate and being bolted thereto, the nut of said bolt being positioned in the channel portion of said channel members to prevent its turning with relation thereto, each of said channel members and said hinge plate and said closure plate having glass bearing surfaces to support glass in said sash and means to open said sash a predetermined distance, said rib acting to prevent the accidental disengagement of the hinge throughout said predetermined distance.

5. A greenhouse structure having supporting roof bars, a ridge bar therefor comprising a vertical web, a pair of supporting members at the foot thereof extending at the same angle as the angle of the roof bars and fastened thereto, the edges of said supporting member being inclined upwardly to define drip gutters, a pair of members extending from the top of said ridge bar, said members being curled at the edges thereof to define a channel constituting a hinge member, a sash having a hinge plate positioned in said channel, a rib on the underside of said members between said web and said channel to deflect any moisture from said channel and to prevent said hinge plate from being accidentally removed from said channel.

6. In a greenhouse structure having glass supporting roof bars a ridge bar therefor comprising a vertical web, a pair of supporting members at the foot thereof coinciding with the angle of the roof bars and fastened to said roof bars, the ends of said supporting members being bent upwardly to define drip gutters, a pair of arms on the upper end of said web, each of said arms being bent upon itself to form a hinge member comprising a channel terminating in an enlarged rounded bearing surface, a rib on the under side of said arms to prevent condensation from entering said channel, a sash member having a hinge plate with a curved hinge member engaging said channel and bearing surface, said sash member, including said hinge plate and closing plate, being joined by a plurality of channel members, said channel members being rabbeted to extend above and below said hinge plate and to abut and extend above said closing plate and being bolted thereto, each of said channel members and said hinge plate and said closure plate having glass bearing surfaces to support glass in said sash and means to open said sash a predetermined distance, said rib acting to prevent the accidental disengagement of the hinge throughout said predetermined distance.

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