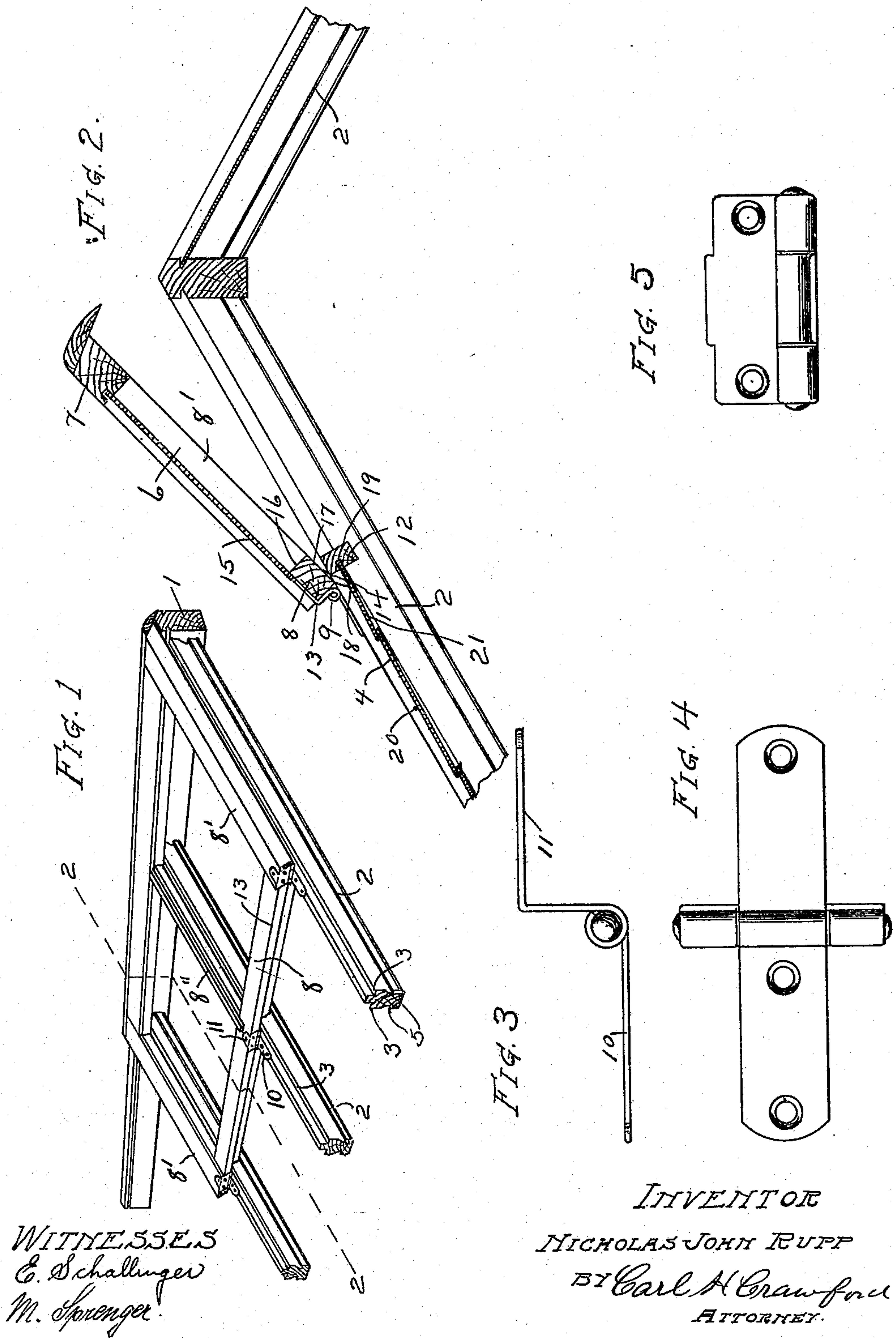


N. J. RUPP,
GREENHOUSE ROOF CONSTRUCTION.
APPLICATION FILED NOV. 30, 1908.

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UNITED STATES PATENT OFFICE.

NICHOLAS JOHN RUPP, OF CHICAGO, ILLINOIS.

GREENHOUSE-ROOF CONSTRUCTION.

No. 930,696.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, NICHOLAS JOHN RUPP, a citizen of the United States, and resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Greenhouse-Roof Construction, of which the following is a specification.

This invention relates to improvements in roof constructions for greenhouses and has to do more particularly with a novel construction of that part of the roof, adjacent the ventilating sash, and a novel means of hinging the sash to the roof structure.

Heretofore, the ventilating sash has been hinged directly to the header, supporting the upper end of the uppermost pane or panes of the roof glass, and as a result of this construction the uppermost panes of the roof glass have been frequently broken and cracked by reason of the strain imposed upon the header when the sash is opened and closed. Frequently the hinges of the ventilating sash become covered with ice and the working of the leaves and pins of the hinges is interfered with by paint and rust thereby necessitating the expenditure of considerable power in actuating the sash operating means. The strain imposed upon the header, when loosening the hinges at the pivots thereof, frequently displaces the header sufficiently to crack the roof glass and sometimes shift the header entirely out of place, loosening its connection with the roof bars. This defective construction is entirely avoided by the improved construction embodying my invention, and in addition, my invention has for its object the provision of a roof structure and ventilating sash wherein no shade is cast by the header and wherein the ventilating sash discharges directly upon the roof glass so that when the glazing pins sag, the resultant spaces between the header and the uppermost pane of roof glass, will not result in leakage.

A further feature consists in a construction wherein the ventilating sash discharges wholly upon the roof glass so as to effectually prevent the freezing of water at the juncture of the sash and header and the resultant interference with the operation of the former.

Further objects of my invention will be fully set forth in the accompanying drawing and will be more particularly pointed out and ascertained in and by the appended claims.

In the drawing:—Figure 1 is a perspective

view, partly in section, of a roof construction and ventilator sash embodying the main features of my invention. Fig. 2 is a sectional view on line 2—2 of Fig. 1. Figs. 3, 4 and 5 are detail views of the form of hinge employed.

Like numerals of reference designate similar parts throughout the different figures of the drawing.

As shown in the drawing 1 designates the ridge and 2 the roof bars, which abut the ridge and are inclined downwardly therefrom. The roof bars 2 are spaced apart from each other and are provided with the usual longitudinal shoulders 3 for receiving and supporting the roof glass 4 and the usual troughs or gutters 5 for receiving the water of condensation. A ventilating sash 6 is disposed upon the roof bars 2, at a point preferably adjacent the ridge 1, and in a manner to overlap the same as indicated in Fig. 1. The head member 7 of the sash lies adjacent and partly upon the ridge 1 and the base member 8 of the sash is disposed at a point remote from the ridge in a direction toward the eaves. The stiles 8' of the sash lie upon two of the roof bars and aline therewith while the sash bar 8'' lies upon and alines with an intermediate roof bar. The base member 8 of the sash is connected directly with one of the roof bars by a hinge 9, one of the leaves 10 being secured to a roof bar and the other leaf 11 being secured to the member 8. The stiles 8' are also hinged directly to the roof bars, preferably in a similar manner and by similar hinges. The preferred construction of hinge is shown in Figs. 3, 4 and 5. The ventilator sash may be operated by any of the well known devices commonly used for this purpose but as the operating mechanism forms no feature of this invention it is not herein shown or described.

The roof glass 4, between those roof bars 2 which are bridged by the sash 6, terminates at and is supported by headers 12 which extend between and are supported at their ends on the sides of the roof bars 2. Referring to Fig. 2 it will be seen that the header 12 is disposed beneath the base member 8 of the sash so as to prevent the header 12 from casting shade. Preferably the header 12 is reduced in thickness with respect to the width of the base member 8 so that the latter, which is of normal size, overhangs the header 12 on both sides thereof. It will be seen from the foregoing construction that no shade will be cast

by the header 12, in addition to the shade cast by the member 8, and that I thereby entirely avoid the objectionable width of parts heretofore necessary and which usually cast a width of shade greatly in excess of the combined width of the sash base and header.

By means of the foregoing construction it will be seen that water will overflow or drip from the margin 13 of the sash base 8 directly upon the roof glass 4 and that I thereby entirely avoid the objectionable freezing of water at the juncture of the sash base 8 and the header 12 and which has heretofore made it difficult and sometimes impossible to open and close the ventilator sash. It will also be seen that when the sash is open a space 14 is formed between the bottom of the sash base 8 and the top of the header 12 so that the water of condensation will run down the lower surface of the sash glass 15 until it reaches the front edge 16 of the sash base 8 wherefrom it will run down the lower surface 17 of said base and drip directly upon the roof glass 4 from the margin 18. By means of this construction I entirely avoid the necessity of providing a gutter on the front face of the header 12 and I also prevent the drippings of condensation from falling into the greenhouse.

In glazing a roof the panes of glass are laid from the eaves toward the ridge, in overlapping relation, and the last pane is usually cut so as to fit between the next adjacent pane and the header. Each pane of glass is held in place longitudinally by glazing pins 20, as shown in Fig. 2, and the weight imposed upon these pins causes them to sag in time and allow the panes to slide downwardly slightly. Furthermore, in cutting the uppermost panes, designated at 21, sufficient care is not always taken to sever the glass accurately at right angles to its lateral margins. From these two causes a great deal of difficulty has been experienced by reason of the consequent leakage caused by a lack of proper fit between the pane 21 and the header 12. By using my improved construction leakage will be impossible, at this point, because the sash base 8 overlaps the header 12 and discharges directly upon the roof glass 4 at a point beyond the header 12. Furthermore, the header is not subjected to any strain whatsoever and it would be impossible for the roof glass to be cracked or broken, as a result of operating

the ventilator sash, in the use of my invention. A further advantage results from the fact that the sash is hinged wholly to the roof bars, the mounting and strength of which is amply sufficient to withstand any strain resulting from an imperfectly operating hinge.

A great deal of difficulty has heretofore been experienced by reason of the warping of the sash stiles which difficulty is wholly avoided, in my invention, by hinging, or attaching the hinges, directly to the stiles thereby preventing warping of either the sash base or the stiles.

I claim:—

1. A greenhouse roof construction comprising downwardly inclined roof bars supporting the roof glass, a header supported by said bars and engaging the roof glass, a ventilator sash bridging said bars and provided with a base member overhanging said header and discharging directly upon the roof glass at a point downwardly beyond the header, and hinges uniting the sash to the roof bars.

2. A greenhouse roof construction comprising downwardly inclined roof bars supporting the roof glass, a header supported by said bars and engaging the roof glass, a ventilator sash bridging said bars and including stiles and a base member, said base member overhanging said header on both sides thereof to prevent the same from casting shade and serving to discharge directly upon the roof glass at a point downwardly beyond the header, a hinge uniting said base member with one of said roof bars, and hinges uniting said stiles with other of the roof bars.

3. A greenhouse roof construction comprising downwardly inclined roof bars supporting the roof glass, a header supporting the end of the roof glass, a sash bridging the end of the roof glass, said sash bridging the roof bars and discharging wholly upon the roof glass at a point downwardly beyond the header, and means for pivotally connecting the sash wholly on the roof bars.

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

NICHOLAS JOHN RUPP.

Witnesses:

P. L. McKEE,

E. F. KUROWSKI.