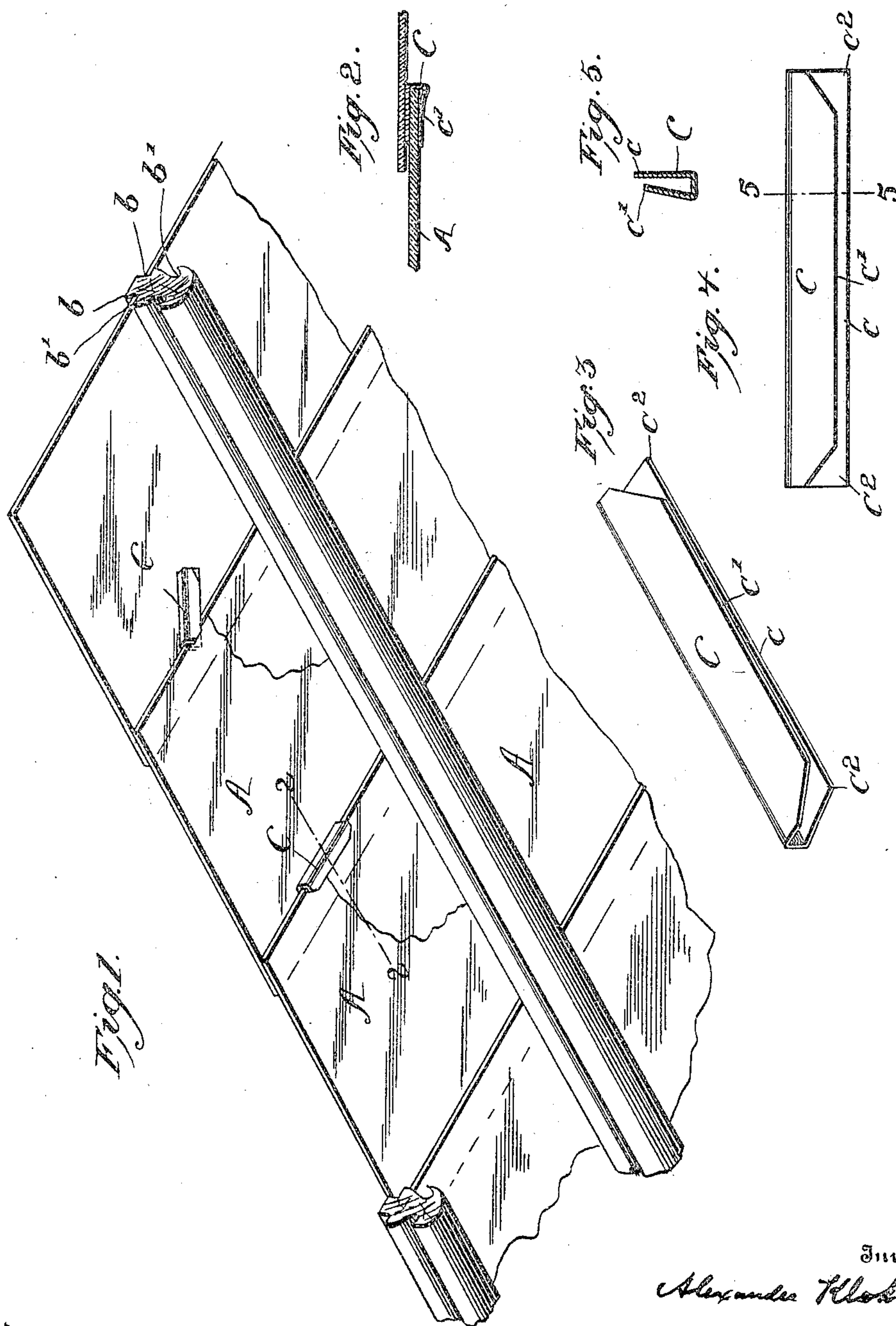


No. 798,065.

PATENTED AUG. 29, 1905.

A. KLOKNER.  
REPAIR CLAMP FOR GREENHOUSE ROOFS.  
APPLICATION FILED MAY 11, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ALEXANDER KLOKNER, OF WAUWATOSA, WISCONSIN.

## REPAIR-CLAMP FOR GREENHOUSE-ROOFS.

No. 798 065.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed May 11, 1905. Serial No. 259,982.

*To all whom it may concern:*

Be it known that I, ALEXANDER KLOKNER, a citizen of the United States, residing at Wauwatosa, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Repair-Clamps for Greenhouse-Roofs; 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 means for securing and holding in place cracked or broken panes of glass in the roofs of greenhouses.

In the construction of greenhouse-roofs having sash-bars extending from the apex to the base-lines thereof the panes of glass have their side edges fitted in rabbets cut in said bars and the top and bottom edges of the panes are laid one upon the other, thus overlapping. As there is no lateral support to such overlapping edges, if a crack occurs in a pane it will gradually increase from its own weight and that of the pane above, causing the cracked portion to sag and finally fall out.

Now the object of my invention is to provide a clamp adapted to fit over the edge of a pane and span a crack therein, and thus support and hold the broken part in place. Again, owing to the difficulty of applying such repair-clamps to cracked panes without displacing the broken parts and the relation of other panes, a further object of my invention is to provide a repair-clamp which can be readily adjusted from the under side of the roof without disturbing the relation of the broken members of a pane or that of other adjoining panes.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view taken from the under side of a greenhouse-roof, showing my repair-clamp applied to a broken pane and also the manner of applying the same. Fig. 2 is a detail section taken on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of the clamp. Fig. 4 is a modification, and Fig. 5 is a section on the line 5 5 of Fig. 4.

Referring more particularly to the drawings, A denotes the panes of glass forming part of a greenhouse-roof, the lower edge of one pane overlapping the upper edge of the next lower pane. The side edges of the panes are supported in longitudinal rabbets *b b* in sash-bars B, which extend from the apex to the

base-lines of the roof. Said bars are formed with gutters *b' b'* to carry down the water which condenses on the under sides of the panes and runs thence onto the sash-bars. C denotes my repair-clamp for broken or cracked panes, made, preferably, of sheet metal and consisting of a folded strip of the same. The back of the fold is vertical and the two flanges or jaws being bent at an acute angle to the back incline toward each other at their front edges. The distance apart of said edges is slightly less than the thickness of the panes A, thereby affording sufficient resilience to clamp the surface of the glass as the edge of a pane is forced between said jaws. *c* denotes the upper and *c'* the lower jaw, the former having a square corner *c<sup>2</sup>* at each end, while the latter has beveled ends, the effect of which is to cause the corners *c<sup>2</sup>* to project at each end of the clamp beyond the ends of the lower jaw. The clamp is made of sufficient width to span far enough upon each side of the crack to give a good bearing-surface upon the divided members of the cracked pane, and so obtain the proper purchase thereon to clamp firmly the opposite edges of the crack, draw them together, and hold them flush.

When a pane is cracked, as shown in Fig. 1, my repair-clamp is adjusted from the under side of the roof as follows: The clamp is first presented at an angle to the broken pane, as shown, the corner *c<sup>2</sup>* being inserted between the upper and lower panes, to one side of the crack, thus lifting the upper pane as it passes over the edge of the broken pane and simultaneously guiding the under beveled end of the lower jaw to pass under the broken pane. Thus it will be seen the edge of the broken pane first enters the end of the clamp at the beveled corner where the distance apart of the two jaws is greater and allows of the free entry of said edge. As the clamp is turned and pressed home parallel with the edge of the broken pane the jaws are pressed apart by the entering edge of the pane.

A modified form of clamp is shown in Fig. 4, in which the upper jaw projects beyond the lower jaw its entire length. In this form the lower jaw projects at right angles to the back, while the upper jaw projects at an acute angle thereto.

In both forms of my repair-clamp the advantage in having the upper jaw project at an acute angle from the back besides affording the requisite resilience to the jaw is to

insure, owing to the slope of the roof, the upper surface of the jaw lying parallel with the pane above which overlaps, as shown in Fig. 2.

Having shown and described my invention,  
5 what I claim, and desire to secure by Letters Patent, is—

A repair-clamp of the character described formed with a vertical back and two jaws projecting therefrom at an acute angle their front

edges being out of contact and the upper jaw 10 projecting beyond the lower jaw.

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

ALEXANDER KLOKNER.

Witnesses:

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