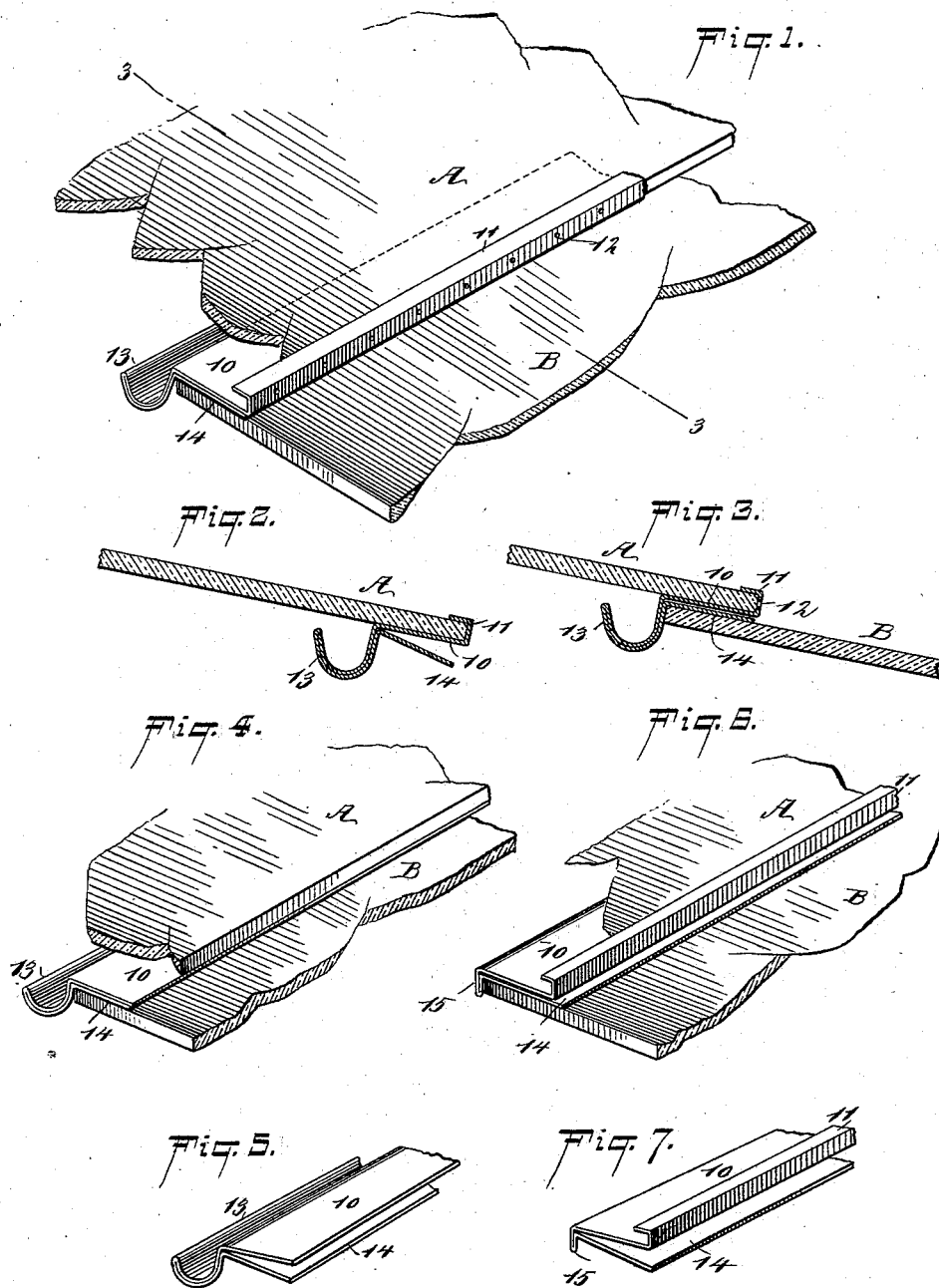


(No Model.)

E. W. CUNNINGHAM.
GLASS STRUCTURE.

No. 524,937.

Patented Aug. 21, 1894.



WITNESSES:

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GLASS STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 524,937, dated August 21, 1894.

Application filed September 2, 1893. Serial No. 484,628. (No model.)

To all whom it may concern:

Be it known that I, EDGAR W. CUNNINGHAM, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Glass Structures, of which the following is a full, clear, and exact description.

My invention relates to an improvement in glass structures, and especially to an improvement in the construction of the roofs of conservatories and like glass structures; or the formation of the sides or any portion of the structure where the panes or panels of glass are made to overlap, and the object of the invention is to provide a coupling between overlapping panels or panes of glass, which coupling will be simple, durable and conveniently applied, and will effectually prevent water, snow or moisture from finding an entrance into the structure at the overlapping of the panes or panels.

Another feature of the invention is to provide a simple coupling for connecting overlapping panes of glass, which coupling will admit of expansion and contraction of the panes or panels, or the supports therefor, the coupling adhering at all times in sealing contact with the panels.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of overlapping panels, illustrating the application of the improved coupling thereto. Fig. 2 is a sectional view through the coupling and through one pane or panel of glass located therein. Fig. 3 is a sectional view through two panes of glass overlapping and coupled by the coupling, the coupling being in section, and the section is taken practically on the line 3—3 of Fig. 1. Fig. 4 is a perspective view of overlapping panels, illustrating a slight modification in the construction of the coupling. Fig. 5 is a detail perspective view of the coupling shown in Fig. 4. Fig. 6 is a perspective view of overlapping panes,

and a similar view of a further modification in the form of the coupling; and Fig. 7 is a detail perspective view of the coupling shown in Fig. 6.

In Figs. 1, 2, and 3, I have illustrated a form of the coupling, which comprises practically all of the features shown in the modifications noted in the remaining views. The coupling is made of sheet metal having spring characteristics, as for example sheet brass, and the material is bent upon itself to form a body leaf 10, and a flange 11, located longitudinally at one end of the body leaf, said flange being shaped substantially as an inverted U, and the flange in its outer face is provided with any desired number of apertures 12. The metal after the flange and body leaf have been formed, is bent upon itself to form a shoulder and a gutter 13 at the side of the body leaf opposite that at which the flange 11, is located, the gutter being formed by carrying the metal downward from the body leaf, and then practically upward until the outer edge of the gutter is substantially in the same plane as the lower edge of the body leaf. In forming the gutter the metal is bent upon itself, and is finally carried from the gutter beneath the body leaf 10, forming thereby an under spring leaf 14, preferably of the same length and practically of the same width as the body leaf. Normally the under or spring leaf 14, will stand at an angle to the body leaf, as shown in Fig. 2. In the application of this form of coupling, one pane or panel of glass A, the upper one, for example, is made to rest upon the body leaf, and its edge enters the flange 11, and the gutter 13, will be beneath the upper pane or panel and will catch any products of condensation leaving the same. The next pane or panel B or that which is to be under the upper one, is made to engage with the shoulder on the underside of the spring leaf 14, and when the panes or panels have been permanently fitted in their frames, the spring leaf will be carried up to practically a firm engagement with the body leaf, as shown in Fig. 3, and the upper edge of the lower pane will abut against the gutter 13. Since the lower leaf 14 is a spring leaf it will follow the face of the glass no matter how irregular it may be, and it is seldom that

the glass used in conservatories or other glass structures is made perfectly smooth and straight upon its faces. It is likewise evident that it will be impossible for water to beat in between the two panes of glass and their overlapping portions, since it will be stopped at the juncture of the two leaves, and any water that may run down the top panel or pane, and find its way within the flange 11, will likewise find its way out through the apertures 12 in the flange.

In Figs. 4 and 5 the flange 11 is omitted, and the upper pane rests upon the body leaf while the lower pane has bearing against the under surface of the spring leaf. In Figs. 6 and 7, the gutter is omitted, and in its place a flange 15, is formed at the inner end of the body and spring leaves, the flange 15, facing downward, and it is preferably a straight flange, while the upper flange, which is the U-flange heretofore referred to, faces upward, and in applying this form of coupling to the panes of glass the upper pane is fitted at its lower edge in the upper flange, while the upper edge of the lower pane will engage with the lower flange, and no matter what the form of coupling may be it is utterly impossible for water to beat into the structure between the overlapping panes or panels.

The coupling is exceedingly simple, it is durable and economic, and it may be applied with convenience and dispatch wherever overlapping panes or panels are used.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with overlapping panels, of a coupling, the same consisting of a spring material bent upon itself to form two opposing leaves having a water-tight connection at one edge, the said leaves being both located between the opposing surfaces of the overlapping panels, their free ends facing outward, and tending to separate, substantially as and for the purpose specified, whereby the edges of the panels will have a cushion bearing and water will be prevented from driving

into the structure to which the panels are applied.

2. The combination, with overlapping panels, of a coupling, the same consisting of a spring material bent upon itself to form two opposing leaves, the said leaves being provided with a water-tight connection at one of their edges, and both located between the opposing faces of the overlapping panels, the free ends of the leaves facing outward, and a gutter formed at the inner or connected edge of said leaves, said gutter being located adjacent to the inner edge of the lowermost of the overlapping panels, substantially as shown and described.

3. The combination, with overlapping panels, of a coupling, the same consisting of a spring material bent upon itself to form two opposing leaves, both located between the opposing faces of the said overlapping panels, said leaves having a water-tight connection at their inner edges, one leaf at its outer edge having binding engagement with the edge of the uppermost panel, as and for the purpose set forth.

4. The coupling for overlapping panels of glass structures, consisting of two flat, spring-metal leaves, one having a flange, 11, projecting upward at its lower edge, the said leaves being arranged one above another, but normally diverging at an acute angle, and connected by a water-tight joint at their rear edges, and also provided with a shoulder adjacent to their point of divergence, as shown and described.

5. A coupling for overlapping panels, the same consisting of two leaves of a spring character arranged one below the other and having a water-tight connection at one point, a gutter located at the connecting portion of the leaves, and an apertured flange located at the free end of one of the leaves, as and for the purpose specified.

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