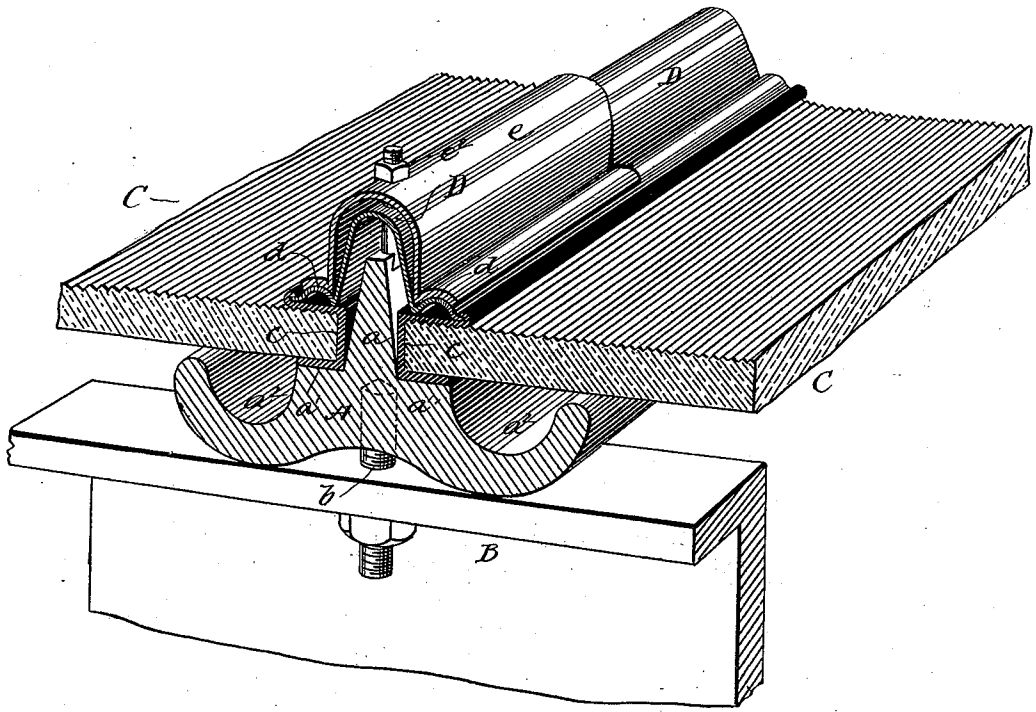
(No Model.)

H. S. DE FOREST.

GLAZING SYSTEM.

No. 511,325. Patented Dec. 26, 1893.



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GLAZING SYSTEM.

SPECIFICATION forming part of Letters Patent No. 511,825, dated December 26, 1893.

Application filed February 2, 1893. Serial No. 460,763. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. DE FOREST, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Glazing Systems, of which the following is a full, clear, and exact description.

My invention is a system of glazing in which putty and similar cements are dispensed with.

The objects of the invention are to improve such systems of glazing now in use and to provide a method of applying the glass by which it may be done quickly and efficiently.

The invention involves the use of a glazing bar of common construction in combination with a cap, between which and the bar, the edges of the glass are held, a novel form and arrangement of fastening device for the cap and novel means and material for sealing the joints.

In the accompanying drawing, the figure is a sectional perspective of the apparatus constituting my invention, showing the construction and relative arrangement of the parts, as practically applied.

Referring to the drawing by letter, A represents a glazing bar which will ordinarily be constructed of steel or iron, but in some instances may be made of wood or other suitable material. It is provided with a central vertical web *a*, at the base of which and on each side is formed two horizontal shoulders or ledges *a'*, upon which the edges of the glass rest. Outside of each ledge there is also formed a gutter a^2, which drops below the surface of the ledge at its lowest point, and the outer edge of which is slightly below the horizontal plane of the ledge. Between the two gutters, and immediately below the central web, sufficient stock is left in which to drill holes for the reception of fastening bolts *b*. These bolts will ordinarily pass through a purlin B, or other part of a frame upon which the glazing rests and will be threaded into the holes in the under side of the bar. It will be observed that by placing the bolts centrally beneath the bar, the gutters are left perfectly free.

C, C represents the plates of glass or other material of which the structure is made. Before placing the glass in position, I prepare it in the following manner: Its side edges which rest upon the bar are bound by strips or sheets of lead *c*, which are compressed solidly against the glass on the upper and lower surfaces thereof and against the vertical edge. This is done by any suitable tool, and if the outer surface of the glass is corrugated, as shown, as is commonly done, the lead is forced into the corrugations. The glass thus prepared is laid upon the ledges *a'*, in the position shown. Next a sheet-metal continuous cap D, is placed longitudinally over the vertical web *a*, which projects upward between the edges of the glass. The cap straddles the web and rests on each side thereof upon the lead strip on the upper surface of the glass. The lower edges of the cap are formed so that they will impinge at two points upon the lead and present an upwardly curved ridge *d*, between the bearing points. One of these bearings is the extreme edge of the cap, while the other is the point where the cap first strikes the lead.

The cap is held in place by spring clips *e*, which consist preferably of sheet-metal having nearly the same cross-section as the cap and any suitable length. These clips are held in place by bolts, the inner ends of which are secured in any suitable manner to the top of the vertical web *a* of the main bar and pass up through perforations in both the cap and the clip. The bolt is fitted with a nut e^2 on its outer end, which is screwed down with any desired pressure upon the top of the clip. The bearing edges of the clip conform in shape to the ridges on each side of the cap, and the pressure which is put upon the nut e^2, to hold the parts together, is applied directly and only to the edges or ridges of the cap and the clip does not touch the cap at any other point. The pressure which is thus applied to the clip, therefore tends to force the edges of the cap into the lead strip, and the latter, more tightly into the corrugations of the glass. If the glass has a smooth surface, the tendency will be to make the cap and lead fit closely to the surface of the glass. These clips may be placed as near together as desired and each may be fastened by one or more bolts, and my invention also comprehends a continuous clip which may be fas-

tened at intervals with the bolts in the manner described.

After the parts are assembled in the manner set forth, the outer edge of the lead strip on the upper surface of the glass, which extends beyond the cap a short distance, is turned up and over the edges of the cap and pressure applied to make tight connection therewith. This operation may be formed by means of a beading tool which may be passed rapidly along the bar after it is assembled. This prevents water from getting under the edge of the cap and the pressure which is first applied to the lead, when it is adjusted to the glass, and afterward constantly applied through the cap by the clip, will maintain a water-tight joint between the gutters of the bar and the outer surface of the glass. It will be observed that the clip is a spring, and by reason of this fact, a constant yielding pressure will be exerted upon the upper surface of the lead packing, the direction of which will be oblique to the surface of the glass; this tends to stretch the lead along the glass surface and rub it into the irregularities thereof. The function of the gutters, it will be understood, is to carry off condensed vapor which may form on the under side of the glass. This system is equally applicable to side walls and roofs.

Having thus described my invention, I claim—

1. In a glazing system, the combination with the glass, of a glazing bar provided with ledges against which the glass rests, a cap straddling the bar and resting upon the glass on each side of the bar, and a clip straddling the cap and with its edges only bearing upon the edges of the cap whereby a spring pressure is applied to the edges of the cap, substantially as described.

2. In a glazing system, the combination with the glass, of a glazing bar provided with ledges against which the glass rests, a cap straddling the bar and resting upon the glass on each side of the bar, a clip straddling the cap and with its edges only bearing upon the edges of the cap, and a packing of lead interposed between the edges of the cap and the glass whereby the cap is held against the lead with a yielding pressure, for the purpose set forth.

3. In a glazing system, the combination of the glass, a glazing bar, a cap covering the bar, the glass being held between the cap and the bar, and a packing of lead interposed between the glass and cap, the outer side of said packing being turned over the edge of the cap, substantially as described.

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

HENRY S. DE FOREST.

Witnesses:
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