

No. 640,840.

Patented Jan. 9, 1900.

F. L. O. WADSWORTH.
TILE STRUCTURE.

(Application filed Apr. 13, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

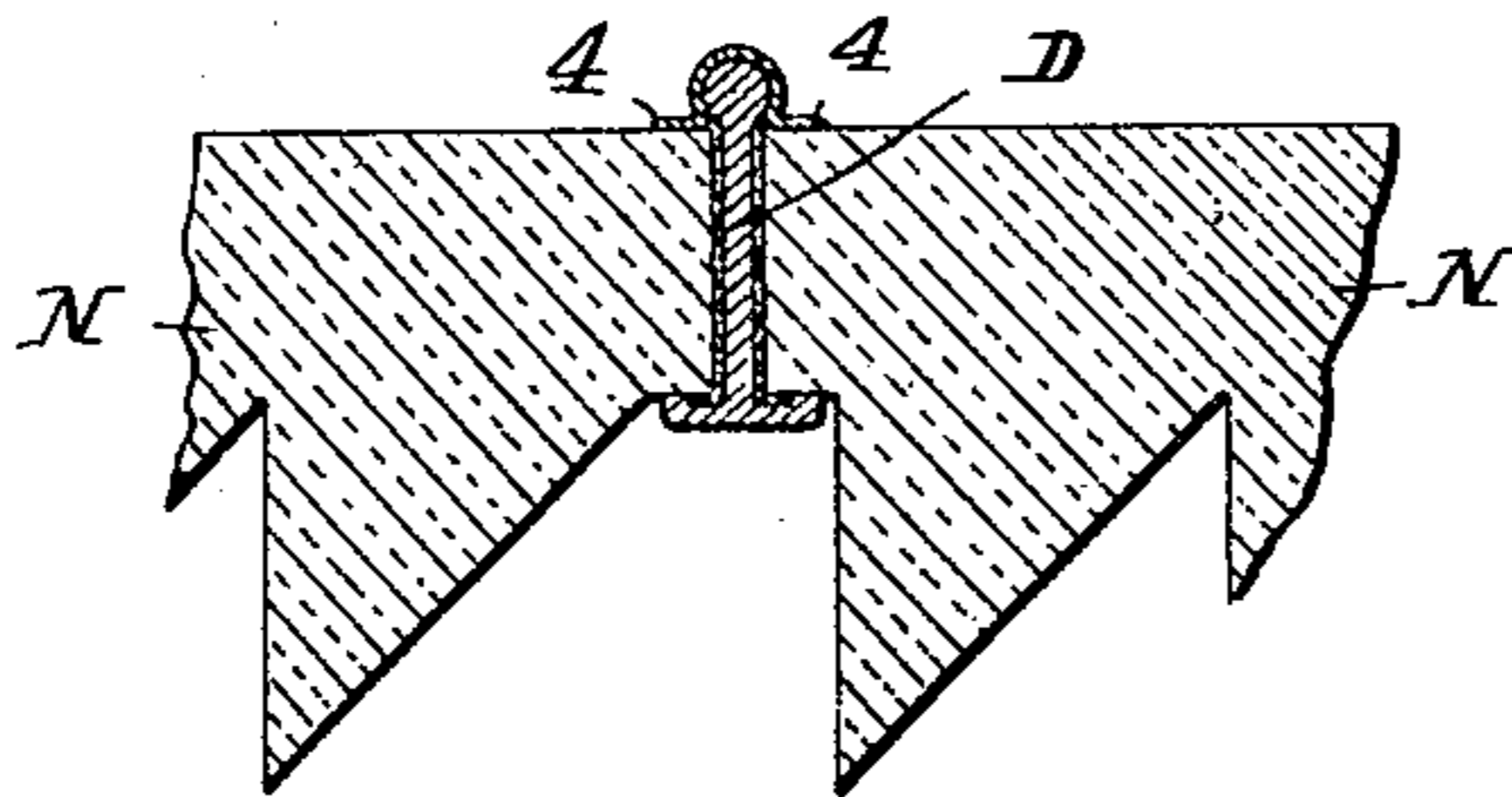


Fig. 2.

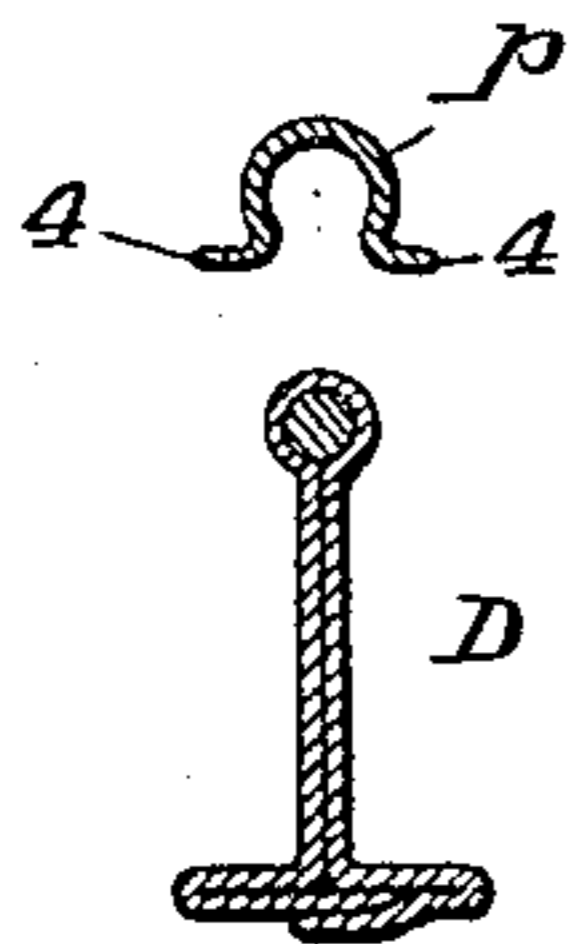


Fig. 3.

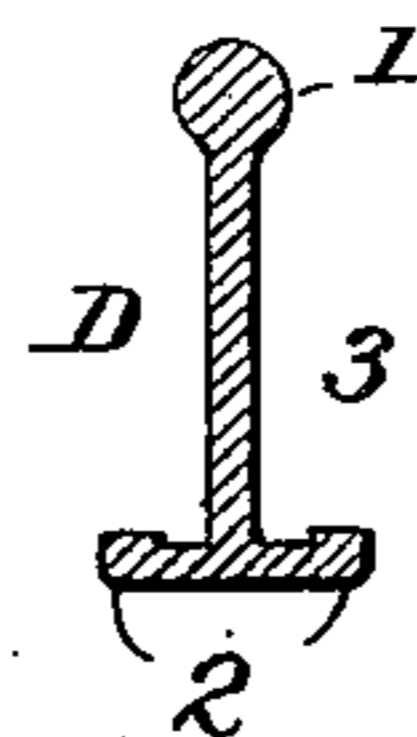
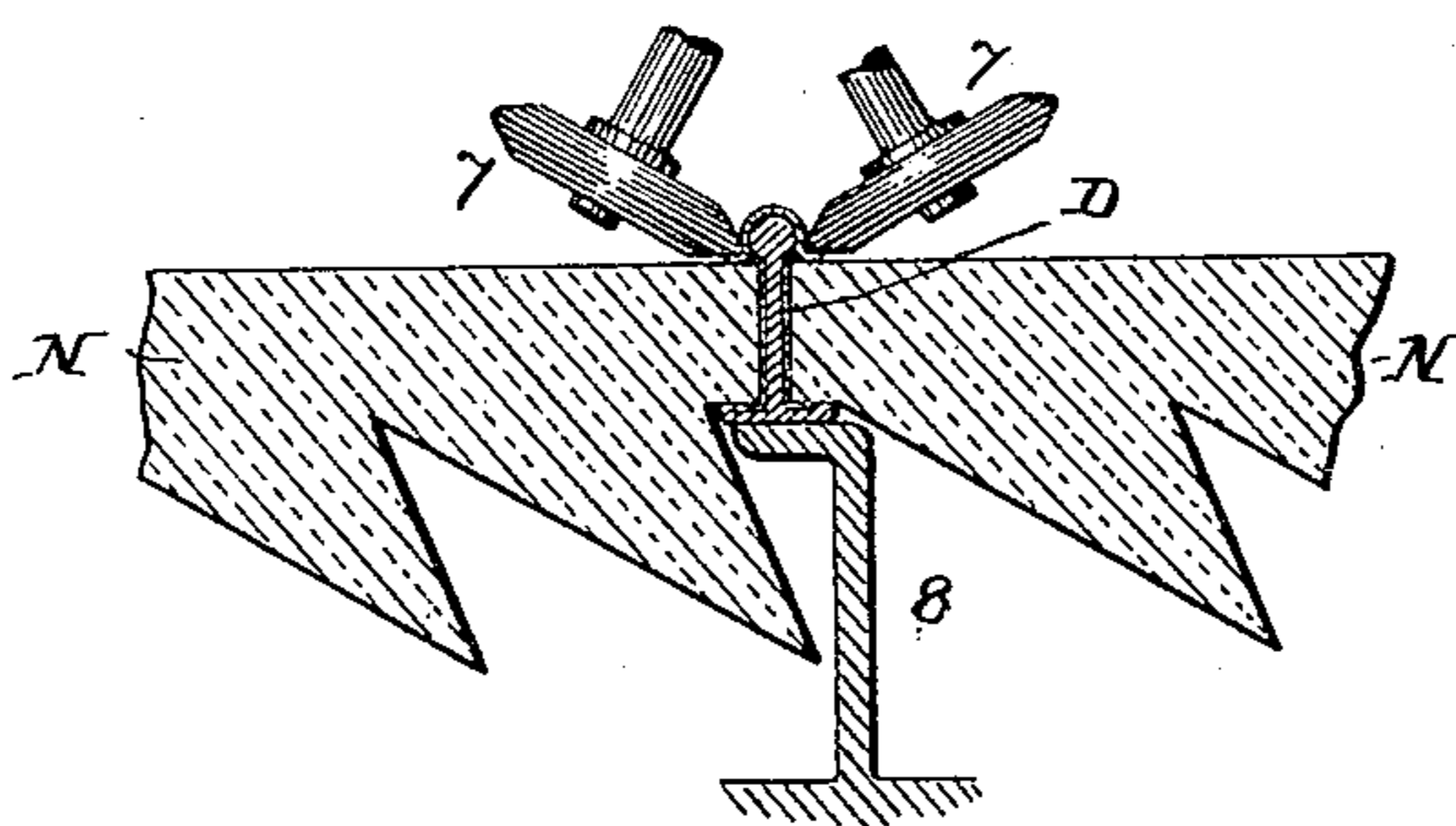


Fig. 4.



Witnesses

J. Hinkel
James Stearns

Inventor

F. L. O. Wadsworth
Forster Freeman
Attorneys

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2 Sheets—Sheet 2.

Fig. 5.

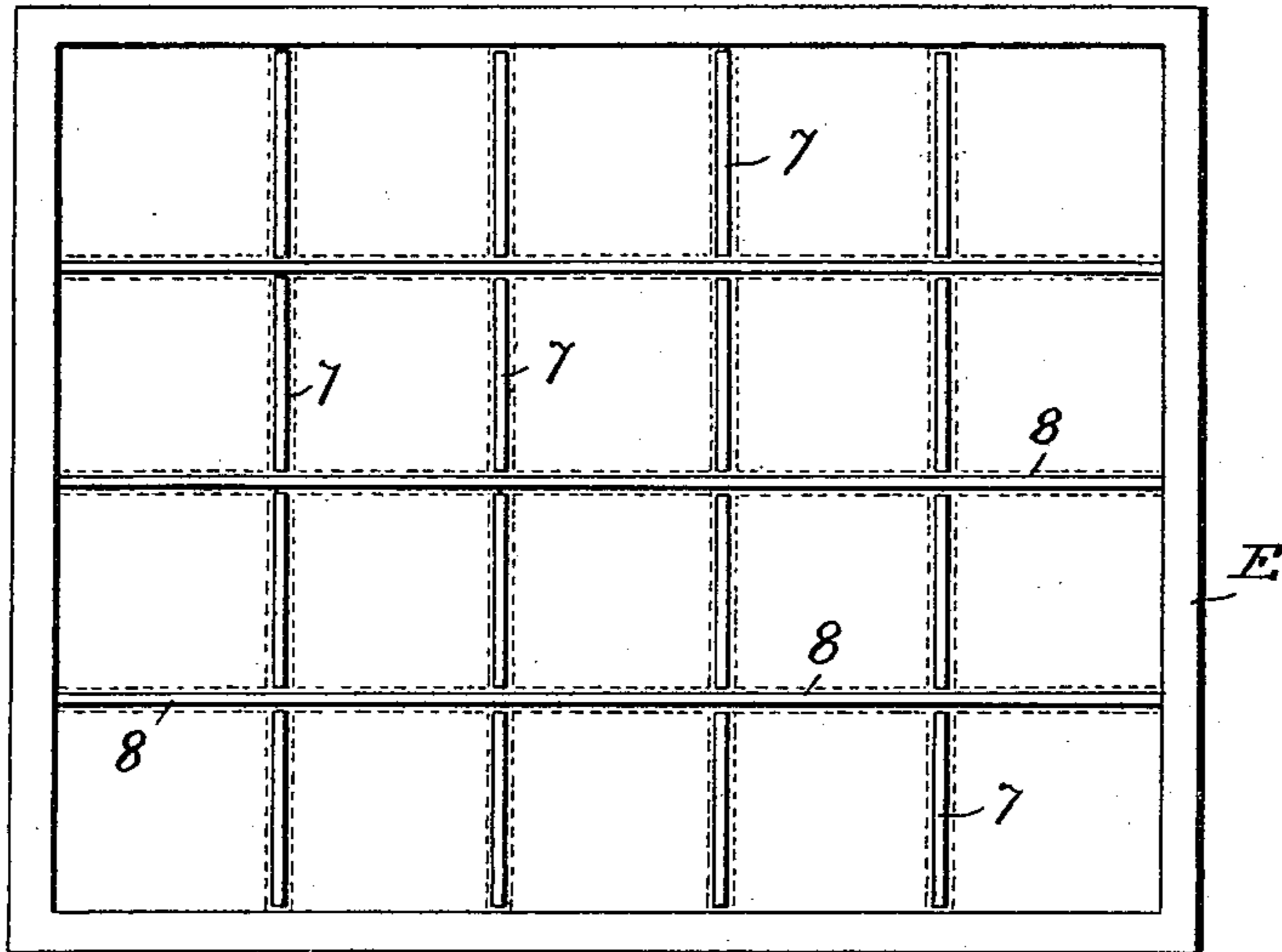


Fig. 6.

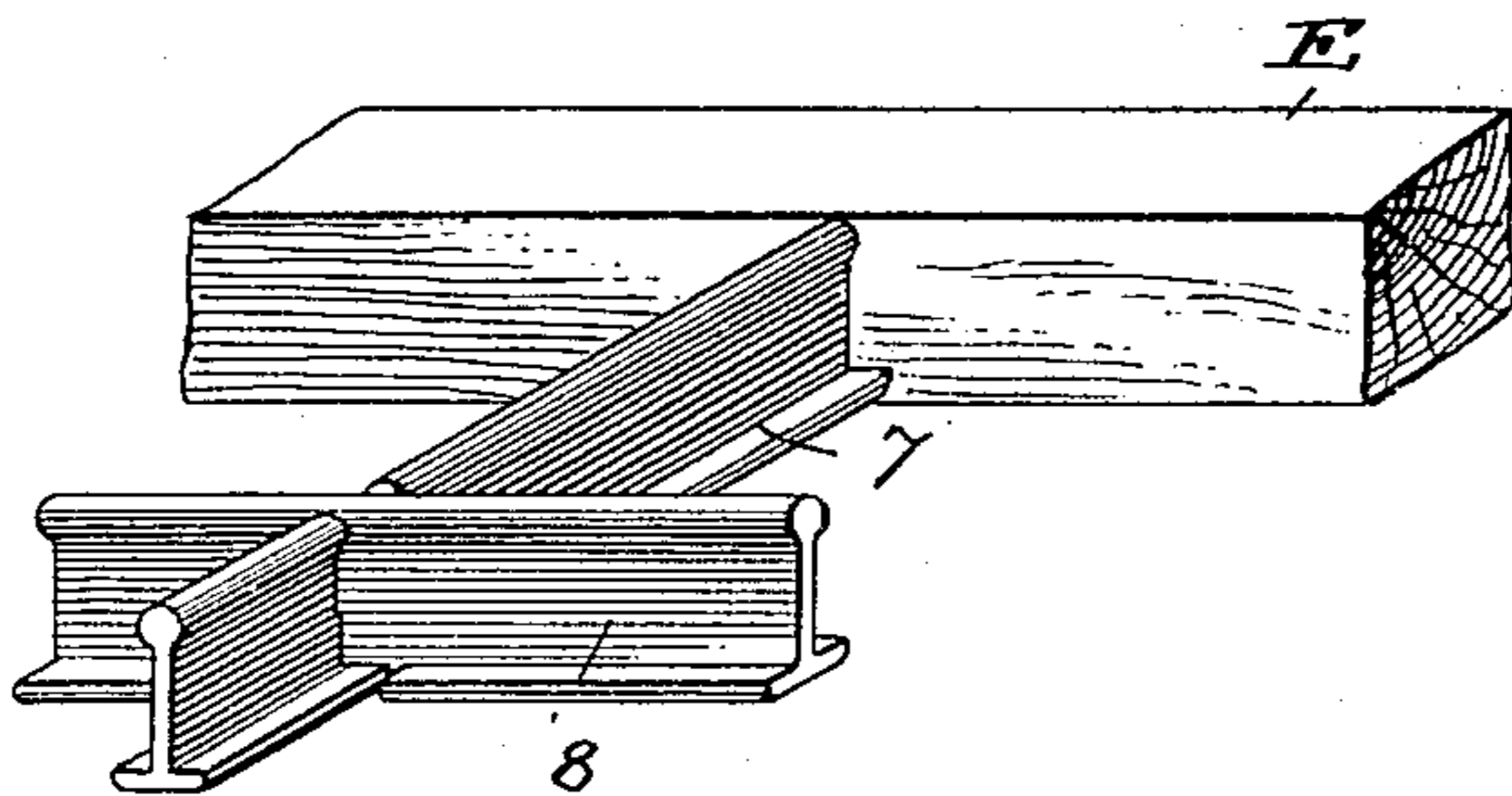
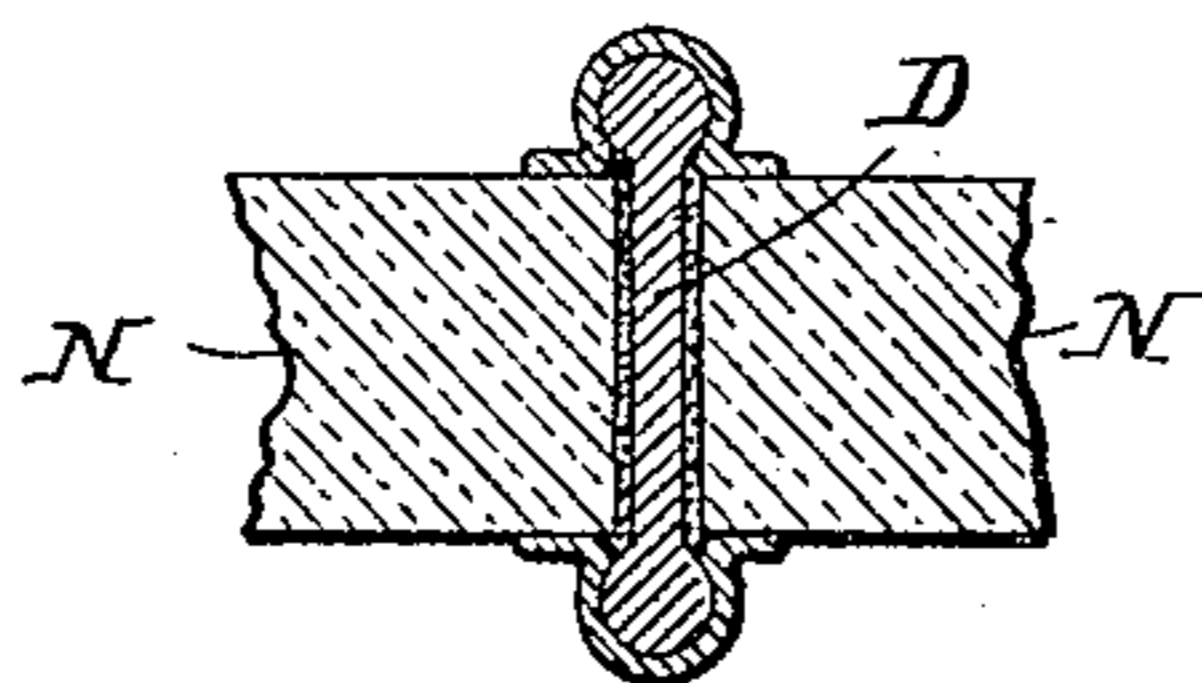


Fig. 7.



Witnesses

J. G. Hinkel
James H. Hinkel

Inventor
by *F. L. O. Wadsworth*
James H. Hinkel
Attorneys

UNITED STATES PATENT OFFICE.

FRANK L. O. WADSWORTH, OF WILLIAMS BAY, WISCONSIN, ASSIGNOR TO
WILLIAM A. BOND, TRUSTEE, OF CHICAGO, ILLINOIS.

TILE STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 640,840, dated January 9, 1900.

Application filed April 13, 1898. Serial No. 677,485. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. O. WADSWORTH, a citizen of the United States, residing at Williams Bay, in the county of Walworth and State of Wisconsin, have invented certain new and useful Improvements in Tile Structures, of which the following is a specification.

My invention has for its object to connect together the tiles or plates assembled in a panel or other structure; and my invention consists in the combination of a series of plates or tiles and a binding device, as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 illustrates in section parts of two tiles, together with the improved binding device. Fig. 2 shows in section the parts of the binding device. Fig. 3 illustrates a binding-strip of cast or rolled metal. Fig. 4 is a sectional view illustrating the means for applying the clamping-strip to the binding-strip. Fig. 5 is a plan view of a frame or sash constructed in accordance with my improvement. Fig. 6 is a perspective view of part of said frame. Fig. 7 illustrates a modification.

The tiles, blocks, or plates N N may be of any suitable and desirable shapes or materials, but as shown are prismatic tiles adapted for use in illuminating structures, where they must be assembled in numbers and relation according to the size and proportions of the structure.

All the tiles to be assembled in any one structure are preferably formed with edges of uniform thickness, with flat upper and lower faces, and the edges of contiguous tiles to be connected are brought together upon opposite sides of a binder piece or strip D. This strip has along one edge a thickened portion or rib 1, and from the other extends on each side a flange 2, the web 3 of the binder-strip being about equal in height to the thickness of the edge of the tiles. With this binder-strip is used a clamp-strip *p*, Fig. 2, consisting of a grooved strip of spring metal adapted to spring over the thickened portion or rib 1, with two outer side flanges 4 4. The binder-strip may be cast or rolled in one solid piece of any suitable material, as illustrated in Figs. 3 and 4, or it may be bent up into shape from

sheet metal, as illustrated in Fig. 2. The strip *p* also may sometimes be cast of soft metal or may be rolled therefrom or of sheet metal, the latter being preferable, as it has a certain elasticity, permitting the strip *p* to spread in passing onto the rib 1 and then contract, being thus clamped in place, which is sufficient for some purposes. The binder-strip D is applied between the opposing edges of two tiles to be connected, the lower faces of the tiles resting on the flanges 2 2, and the strip *p* is then applied to the thickened portion of rib 1 with its outer flanges bearing flat upon the upper faces of the tiles, the interior channels fitting the ribs closely, so as to present as small a projecting portion as possible. This will do for some purposes; but to secure a firmer connection the sides of the strip, especially if the latter is of soft metal, may be forcibly bent in under the thickened portion of rib by any suitable tool—as, for instance, by two traveling bending-wheels 7 7, carried by a carriage which is passed over the tiles, or the latter may slide on a support 8 below the wheels, as shown in Fig. 4. To secure a tight waterproof joint and a firmer structure, a suitable binder material may be interposed between the strips and the edges of the glass. One means consists of an electrodeposit between the parts. Another consists in applying cement to the faces of the strips before the parts are assembled and then bringing them together, the pressure forcing the cement into all the cracks and interstices. This cement may be hardened by merely drying or by baking or treatment with other materials.

While the binder-strips are preferably provided with bearing-flanges 2, in some cases they have thickened portions or ribs 1 at each edge, in which case two clamping-strips *p* must be used, as shown in Fig. 7.

The binder-strips may form the bars of a sash or frame E, which incloses the whole body of tile-sections forming a panel, as shown in Fig. 5. In this case one set of binder-strips 8 8 8, preferably those extending the long way of the frame, are first inserted at the proper distance apart and the tile-sections inserted between them and secured along the edges 8 8 8, as above described. Short sec-

tions 7 7 of the strips are then inserted between the tile-sections and secured in the same manner, or the whole frame may be built up first of the strips connected together
5 at the proper intervals either by notching together the strips at their cross-points, as shown in Fig. 7, or in any other suitable manner, then inserting the tiles in the openings between the strips, and finally applying
10 the clamping-strips *p*.

Without limiting myself to the precise construction and forms and proportions shown, I claim—

The combination of the tiles, intervening strips having thickened portions and clamp- 15 ing-strips having channels closely fitting the thickened portions and outer flanges bearing on the tiles, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of 20 two subscribing witnesses.

FRANK L. O. WADSWORTH.

Witnesses:

HARRY E. HAY,
W. CLARENCE DUVALL.