No. 629,197. Patented July 18, 1899.

J. MARK.

VAULT LIGHT OR ILLUMINATION TILE.

(Application filed Jan. 11, 1899.)

(No Model.)

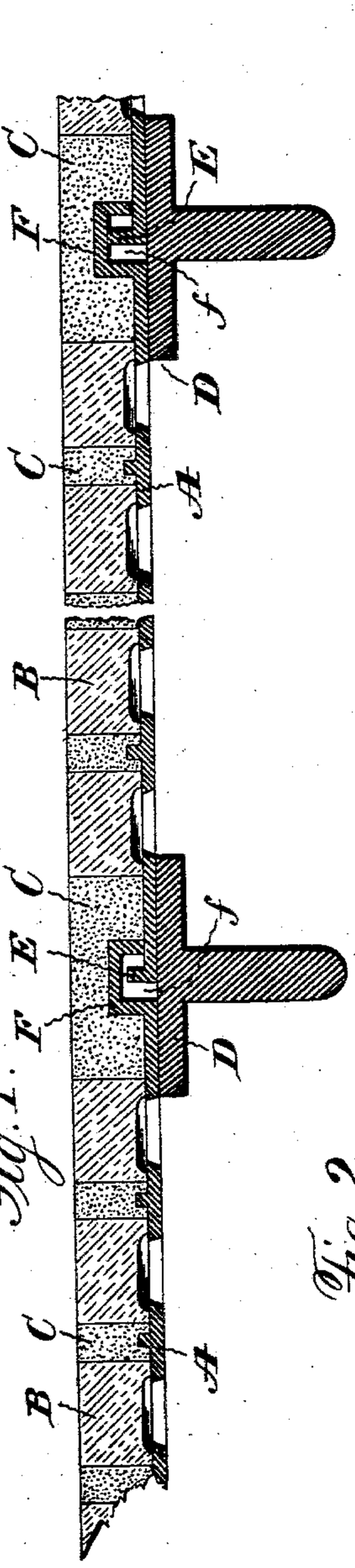

Fig. 1.

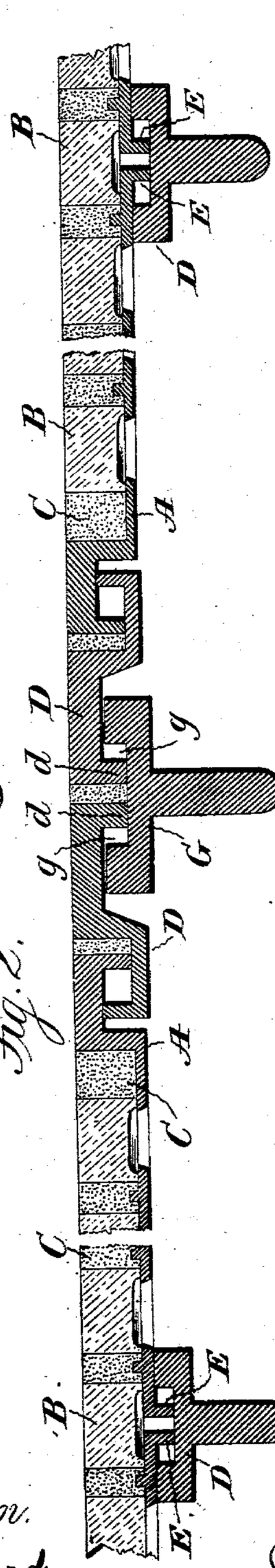

Fig. 2.

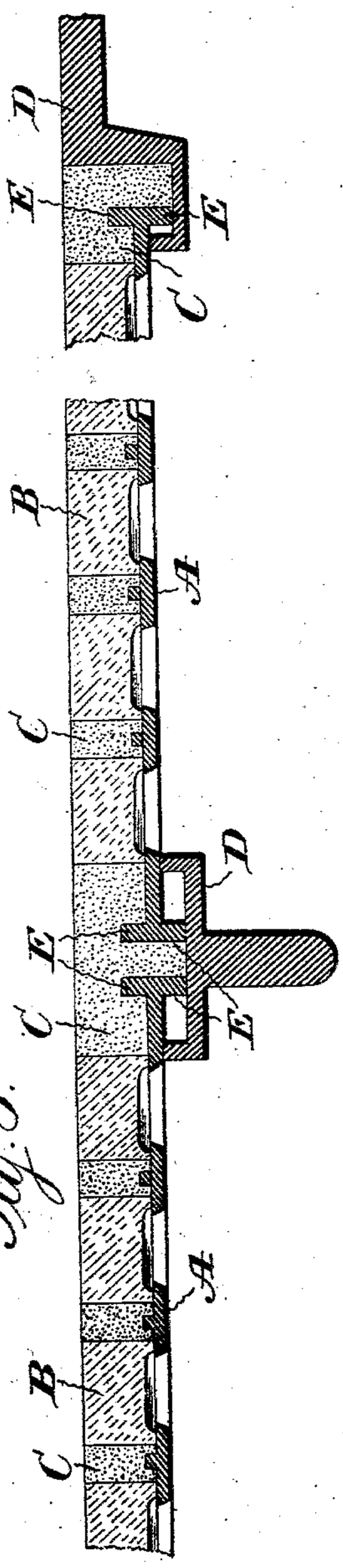

Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

JACOB MARK, OF NEW YORK, N. Y.

VAULT-LIGHT OR ILLUMINATION-TILE.

SPECIFICATION forming part of Letters Patent No. 629,197, dated July 18, 1899.

Application filed January 11, 1899. Serial No. 701,869. (No model.)

To all whom it may concern:

Be it known that I, JACOB MARK, of the borough of Manhattan, New York city, in the county of New York, and in the State of New York, have invented certain new and useful Improvements in Vault-Lights or Illuminating-Tiles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of a portion of a vault-light constructed in accordance with my invention. Fig. 2 is a like view of another construction of vault-light embodying my invention, and Fig. 3 is a like view showing still another construction.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to provide a construction of vault-light or illuminating-tile in which the frame-joints can be made water-tight and kept so by making provision for expansion and contraction due to changes of temperature, which will obviate injury to such joints from that cause; and to this end said invention consists in the vault-light or illuminating-tile having the features of construction substantially as hereinafter specified.

In the carrying of my invention into practice I employ a construction of vault-light or illuminating-tile which, generally stated, consists of perforated plates A and A, having glasses or lights B and B applied to the perforations, with cement or concrete C placed in the spaces between the glasses, and a frame or support D, upon which the plates A and A rest. As shown in Fig. 1, I construct the edges of the plates A and A so that they will have interlocking or overlapping portions where they adjoin, forming on the edge of one plate a simple upwardly-extending vertical flange E and on the adjoining edge of the other plate a vertical flange F, that is provided with a channel or groove *f* in its under side, which sits over the flange E of the other plate. The flange E does not fit the groove in the flange F closely, but an ample space is left between the sides of the groove and the flange, as shown, so that relative movement of the two plates can freely occur when such movement is caused by the expansion or contraction thereof from changes of temperature. The overlapping or interlocking of the plates prevents moisture finding its way through the joint; but it is essential to the maintenance of a water-tight joint that provision be made for expansion and contraction of the plates.

As preferably constructed each plate has on one edge the flange E and on the opposite edge the grooved flange F.

As shown in Fig. 2, instead of the construction and arrangement of flanges shown in Fig. 1 each plate may have a simple flange E on each edge, that projects downward, not upward, into a channel or groove, spaces being left between the sides of the latter and the flanges E and E and between the adjacent flanges of contiguous plates. The under sides of the plates A and A rest upon the portions of the frame D at each side of the grooves or channels therein. An advantage of such a construction as is shown in Fig. 2 is that glasses or lenses can be placed over the joint, and though, of course, no light will be transmitted through such glasses the appearance of the cover or tile will be enhanced, as its whole surface will present a uniform appearance. In Fig. 2 there is also shown an adaptation of the invention to a construction where several frames D and D have to be used, the outer or border portions thereof being supported on a girder or beam G, the edges of the frames having downwardly-projecting flanges *d* and *d*, that enter a channel or groove *g* in the upper side of the girder or beam.

In Fig. 3 a construction is shown which is really a combination in one structure of the two shown in Figs. 1 and 2, there being the upwardly-projecting and interlocking flanges E and F, (shown in the former figure,) and the downwardly-projecting flanges E and E, (shown in the latter figure.) The same provision of spaces to permit contraction and expansion is made in this case as in the others. If desired, the overhanging portion of the flange F may be omitted and a construction used that comprises simple flanges that project above and below the plate.

It is to be understood that any desired form of glass or lens may be used in the plates, as the form of glass or lens has nothing to do with the invention, and the particular forma-

tion of the plates may be varied as desired so long as the characteristic features of my joint be retained.

I do not restrict myself to the use of my invention in any particular situation, as it is equally applicable to sidewalks, floors, and roofs.

Having thus described my invention, what I claim is—

1. The combination of a frame or support, plates on the latter, and a joint or joints formed by flanges and grooves, or channels, the walls of the latter and the flanges being separated by spaces, to permit relative movement of the parts under changes of temperature, substantially as and for the purpose described.

2. The combination of a frame or support, plates on the latter having interlocking portions at their edges, consisting of a flange on one plate, and a groove or channel in the other, the sides of the groove and the flange being separated by spaces to permit relative movement of the parts under changes of temperature, substantially as and for the purpose described.

3. The combination of a frame or support, plates on the latter having perforations with glasses or lenses thereover, cement or concrete in the spaces between the glasses, and a joint or joints formed by flanges and grooves, or channels, the walls of the latter and the flanges being separated by spaces to permit relative movement of the parts under changes of temperature, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of December, 1898.

JACOB MARK.

Witnesses:
CHRISTIAN HENRY MÜLLER,
JACOB L. MARK.