

(No Model.)

C. E. FURMAN.

ILLUMINATING TILE FOR SIDEWALKS, ROOFING, &c.

No. 311,891.

Patented Feb. 10, 1885.

Fig. 1.

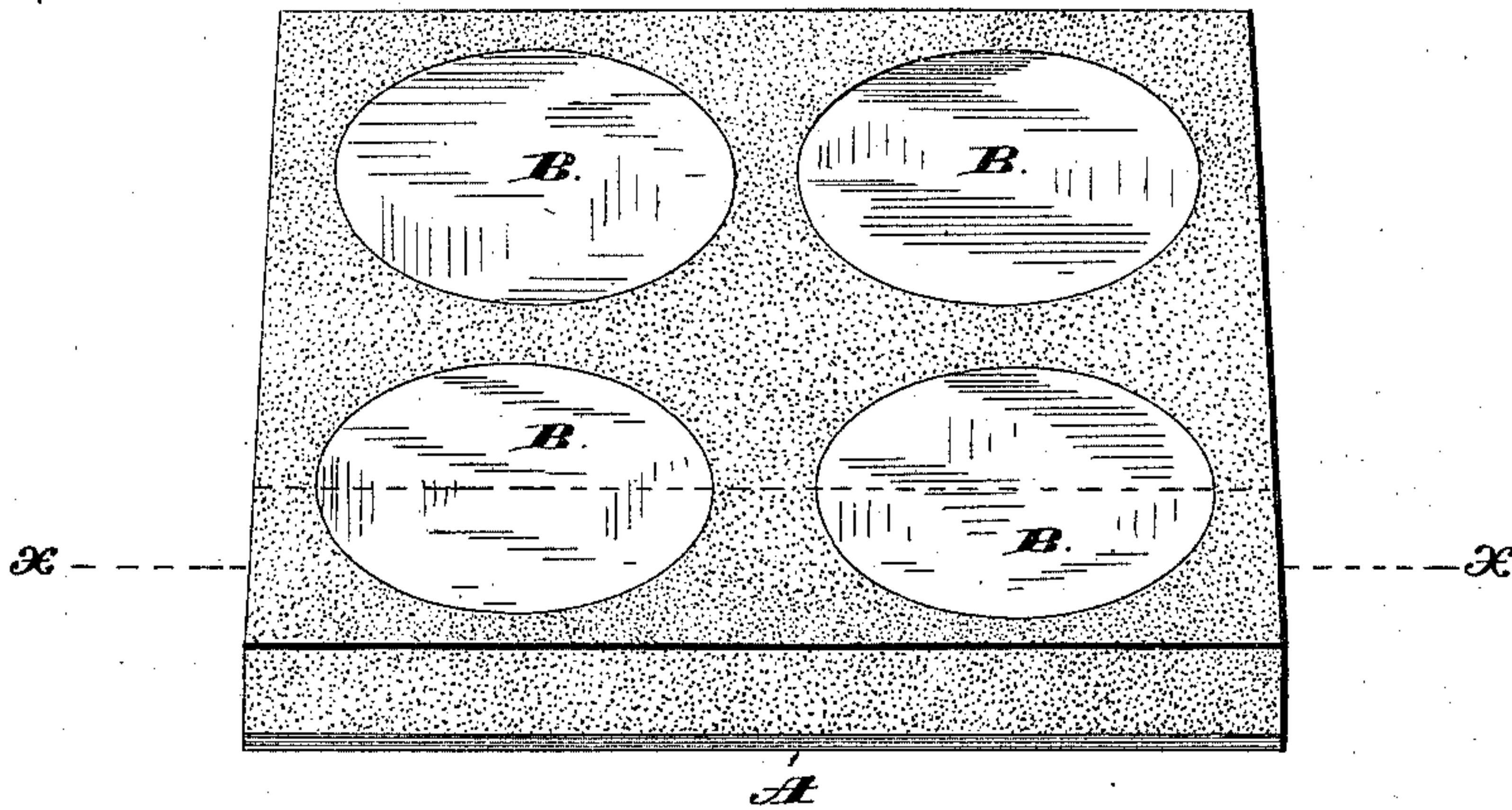


Fig. 2.

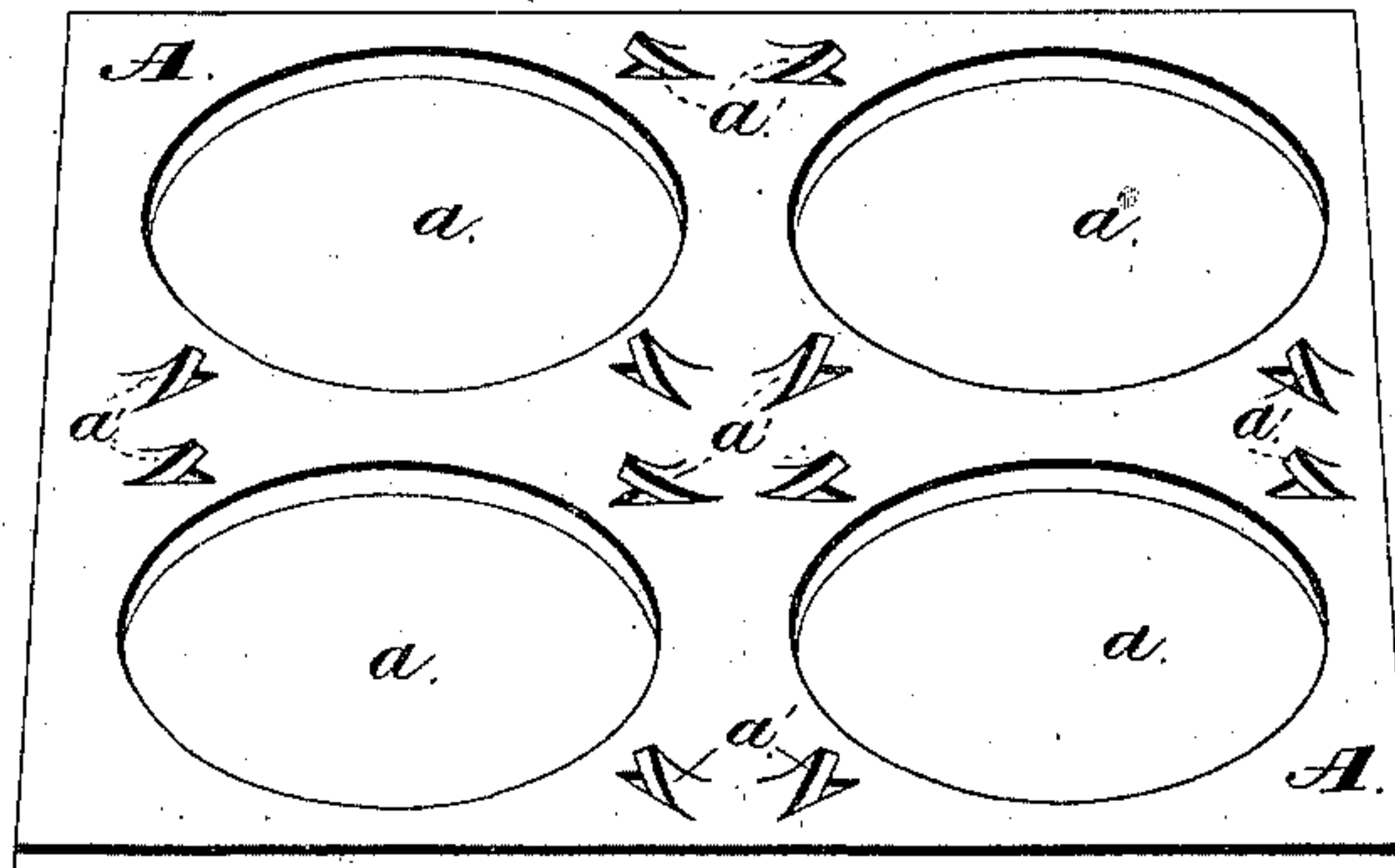
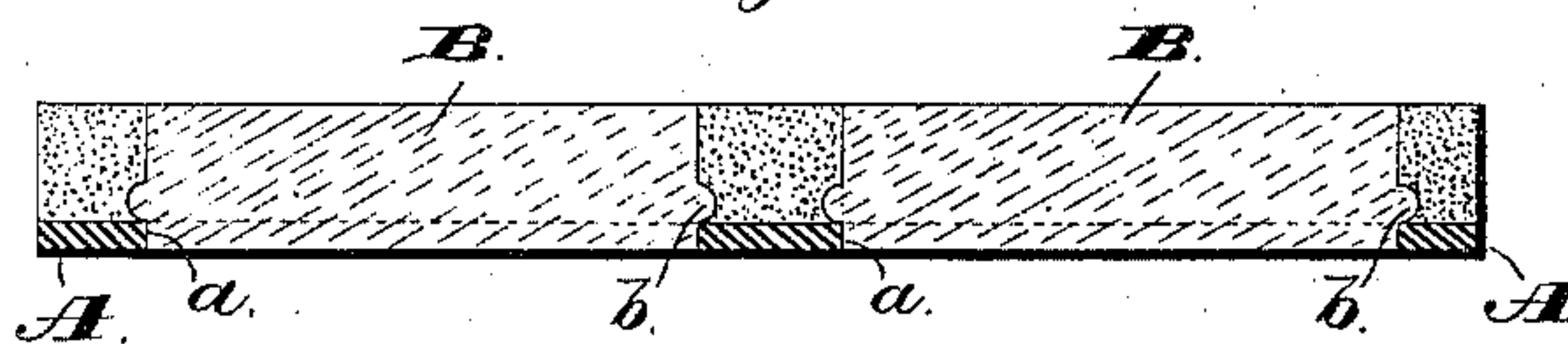


Fig. 3.



Witnesses:

Jas. E. Hutchinson.  
Henry C. Hazard

Inventor.

Chas. E. Furman, by  
Prindle & Russell, his Attys



# UNITED STATES PATENT OFFICE.

CHARLES E. FURMAN, OF NEW YORK, N. Y.

## ILLUMINATING-TILE FOR SIDEWALKS, ROOFING, &c.

SPECIFICATION forming part of Letters Patent No. 311,891, dated February 10, 1885.

Application filed February 16, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. FURMAN, of New York, in the county of New York, and in the State of New York, have invented certain  
5 new and useful Improvements in Illuminating-Tiles for Sidewalks, Roofing, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a  
10 part of this specification, in which—

Figure 1 is a perspective view of my tile complete. Fig. 2 is a like view of the same without the cement filling, and Fig. 3 is a vertical section upon line *x x* of Fig. 1.

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

The design of my invention is to lessen the expense while preserving all of the strength and efficiency of illuminating-tiles for roofing  
20 and walking purposes; to which end said invention consists, principally, in an illuminating-tile composed of a sheet-metal plate provided with light-openings and upward-projecting spurs which are partly cut from and  
25 form part of said plate, in combination with glass lenses placed within or over said light-openings, and cement or other like material placed upon said plate between and around  
30 said lenses, substantially as and for the purpose hereinafter specified.

It consists, further, in a tile composed of a sheet-metal plate provided at suitable points with upward-projecting spurs which are partly cut from and form part of the same, in combination with cement or other like material  
35 applied in a plastic or semi-liquid state to and caused to cover the surface of said plate, substantially as and for the purpose hereinafter shown.

40 In the application of my invention to use, I take a plate of sheet metal, A, and cut within the same, at suitable intervals, light-openings *a*, that may have any desired size or shape. Between said openings *a* spurs *a'* are formed  
45 by partly cutting the same from said plate and raising them above the upper surface of the latter, each spur having, preferably, an inclination upward and toward an adjacent opening. Said spurs may be formed by any  
50 desired means; but it has been found advan-

tageous to accomplish the result by means of punches operating from the back side of said plate.

Over or within each opening *a* is placed a glass lens, B, which is preferably constructed  
55 with a peripheral ledge, *b*, that rests upon the upper edge of said opening, and holds said lens in vertical position, with its lower face flush with the corresponding face of the plate A. If desired, however, said ledge may be  
60 omitted, and said lens held in position while being cemented in place by means of a support arranged beneath its lower end. The lenses B being in position within or over the openings *a*, cement or other like material in  
65 a plastic or semi-liquid state is placed upon the plate A around and between said lenses, and caused to fill the space and to be flush with the upper faces of the latter, after which  
70 said filling is permitted to thoroughly harden before the tile is used. The tile thus constructed possesses great strength and rigidity, and is capable of sustaining a heavy load between its supports, the sheet metal operating  
75 as the tension member and the cement and glass as the compression member of the space, and while thus efficient may be constructed in a fraction of the time and at a much smaller expense than would be possible in case of ordinary tiles which have cast-iron plates. 80

When not required for illuminating purposes, the glass lenses and light-openings may be omitted and the cement caused to cover the entire surface of the plate.

I am aware that it is not new in illuminating-tiles to use a metal plate provided with upwardly-projecting studs or spurs cast thereon.

Having thus fully set forth the nature and merits of my invention, what I claim as new is— 90

1. An illuminating-tile composed of a sheet-metal plate provided with light-openings and upward-projecting spurs which are partly cut from and form part of said plate, in combination with glass lenses placed within or over  
95 said light-openings, and cement or other like material placed upon said plate between and around said lenses, substantially as and for the purposes described.

2. A tile composed of a sheet-metal plate 100

provided at suitable points with upward-projecting spurs which are partly cut from and form part of the same, in combination with cement or other like material applied in a  
5 plastic or semi-liquid state to and caused to cover the surface of said plate, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of February, A. D. 1884.

CHAS. E. FURMAN.

Witnesses:

R. S. HAYWARD,  
E. P. GLEASON.