

No. 691,791.

Patented Jan. 28, 1902.

W. P. MEEKER.

TILE FACED SURFACE AND THE METHOD OF CONSTRUCTING SAME.

(Application filed Apr. 17, 1901.)

(No Model.)

2 Sheets—Sheet 1.

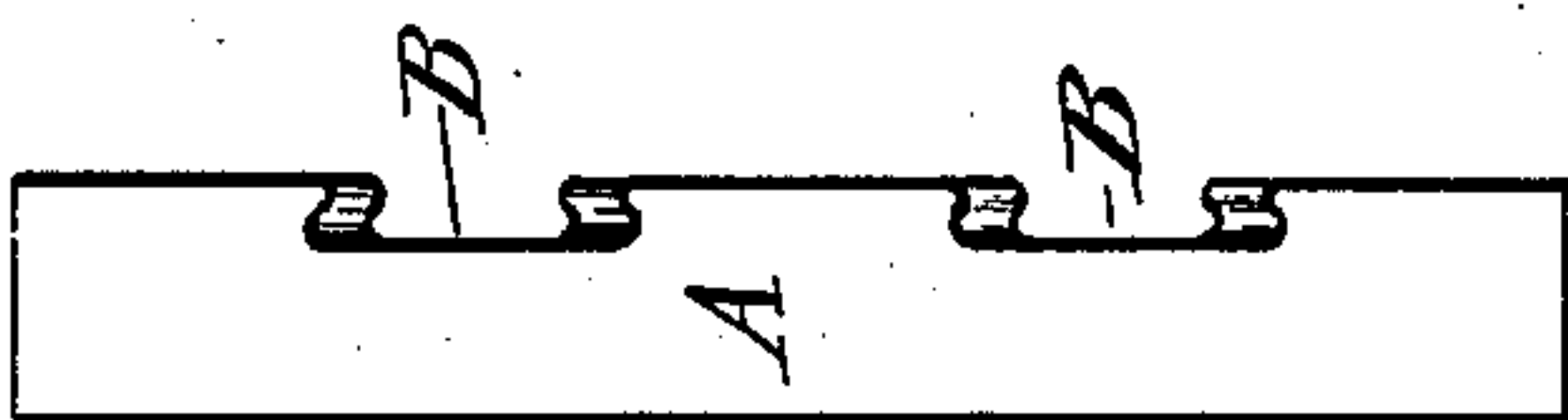
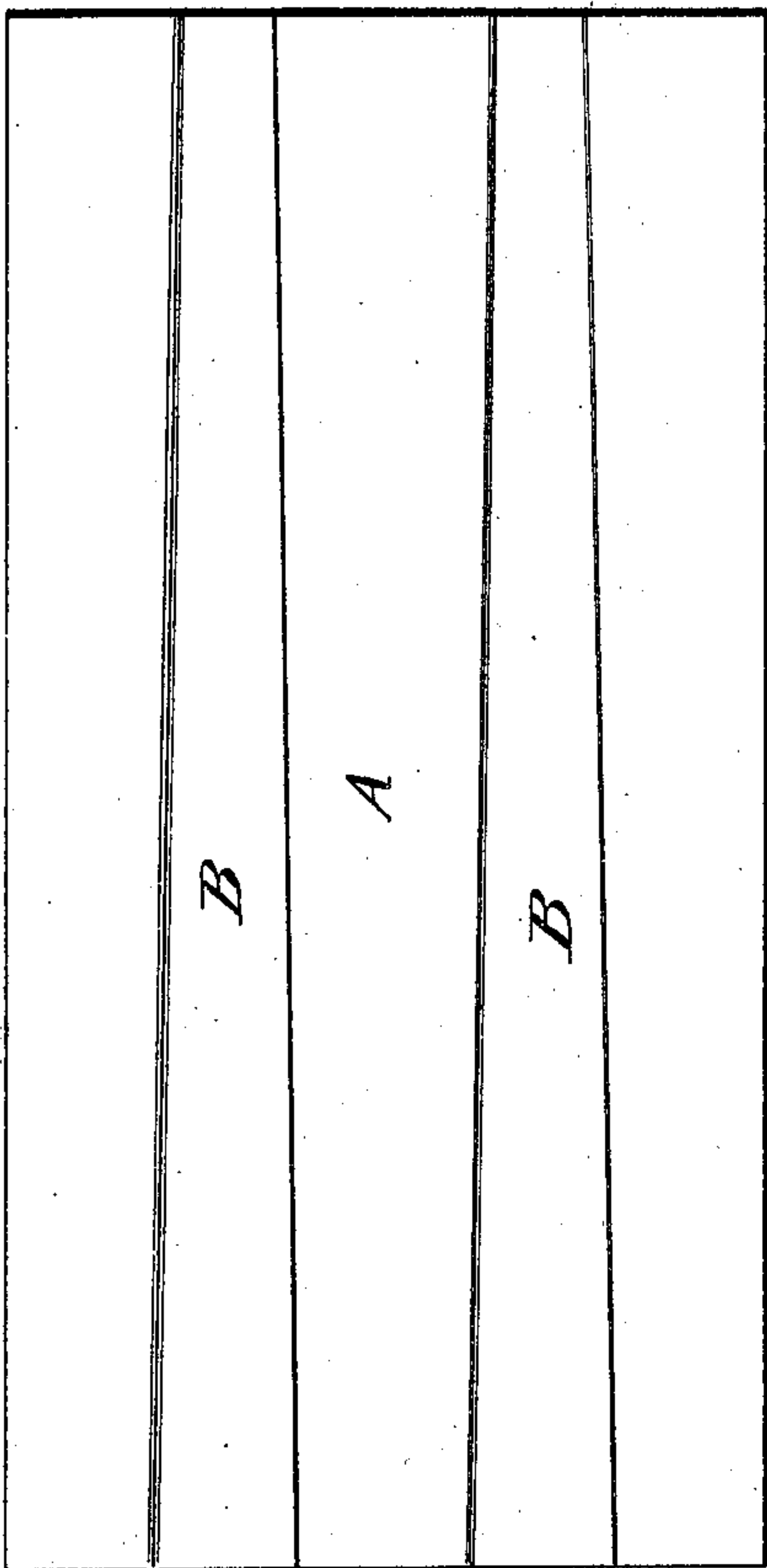


Fig. 2.



WITNESSES:
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Fig. 1.

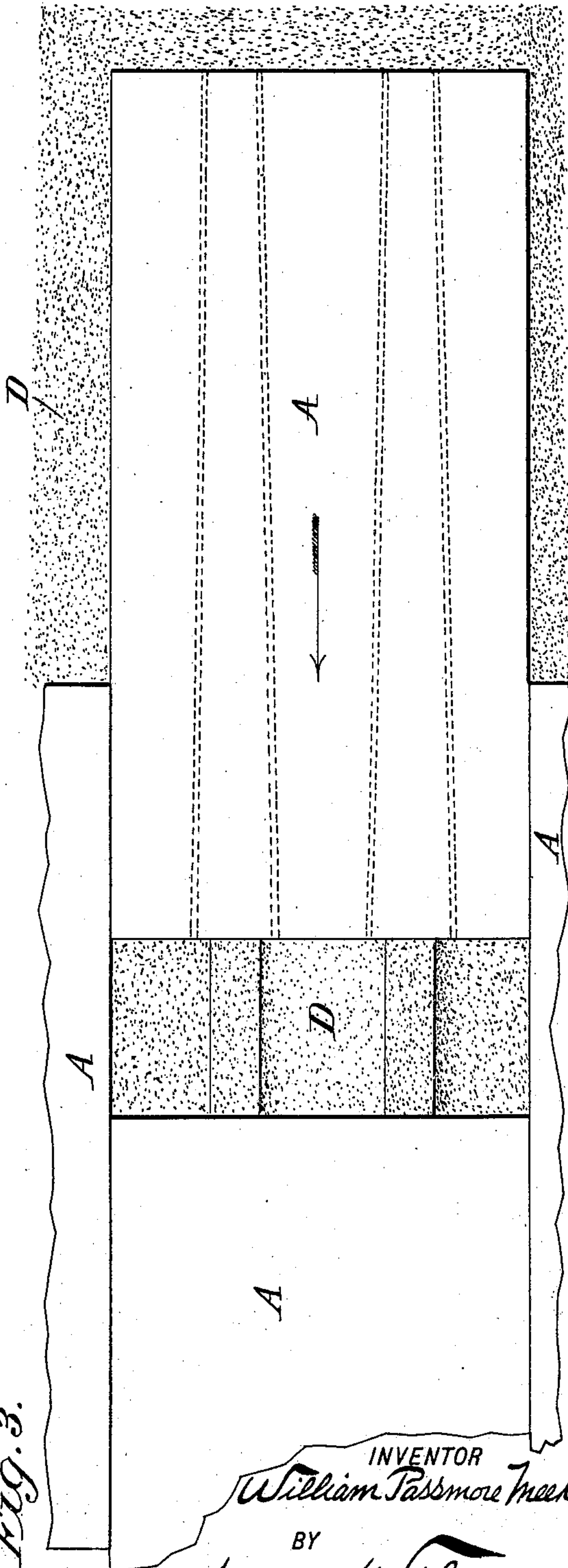


Fig. 3.

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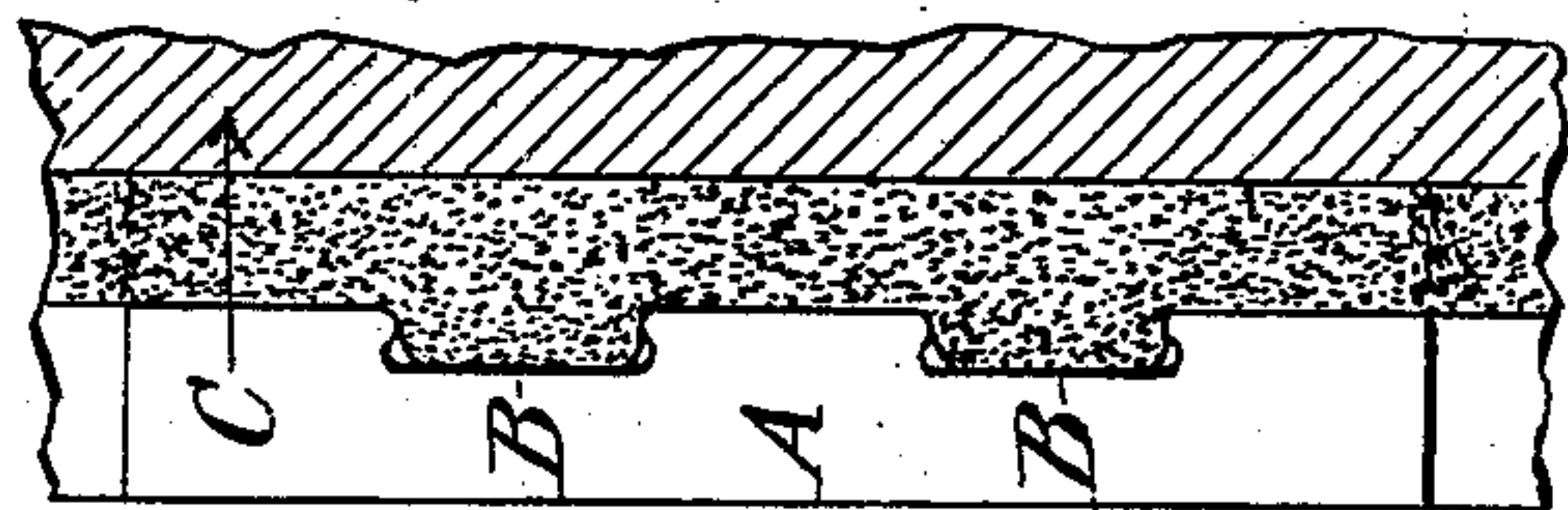


Fig. 6.

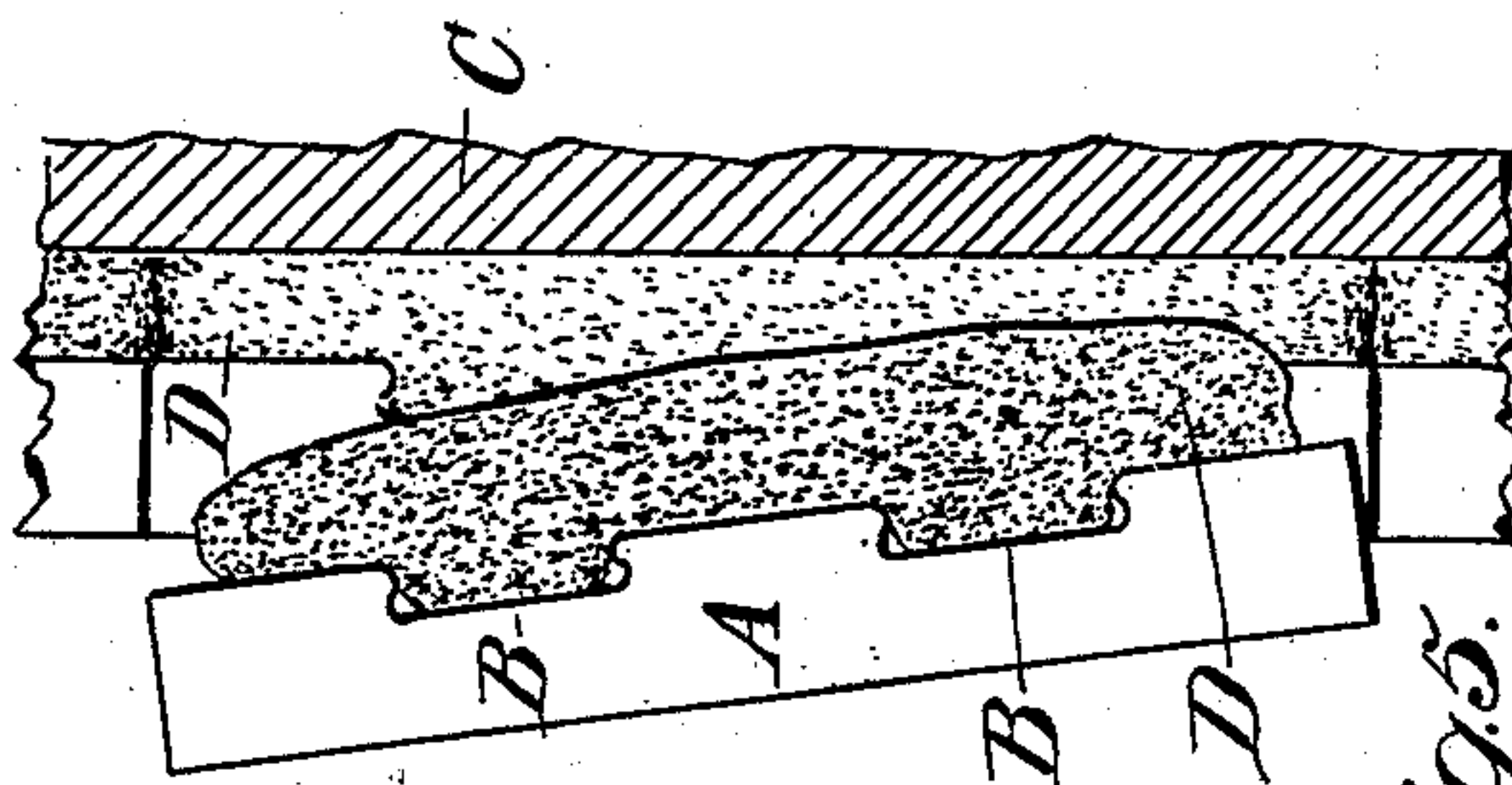


Fig. 5.

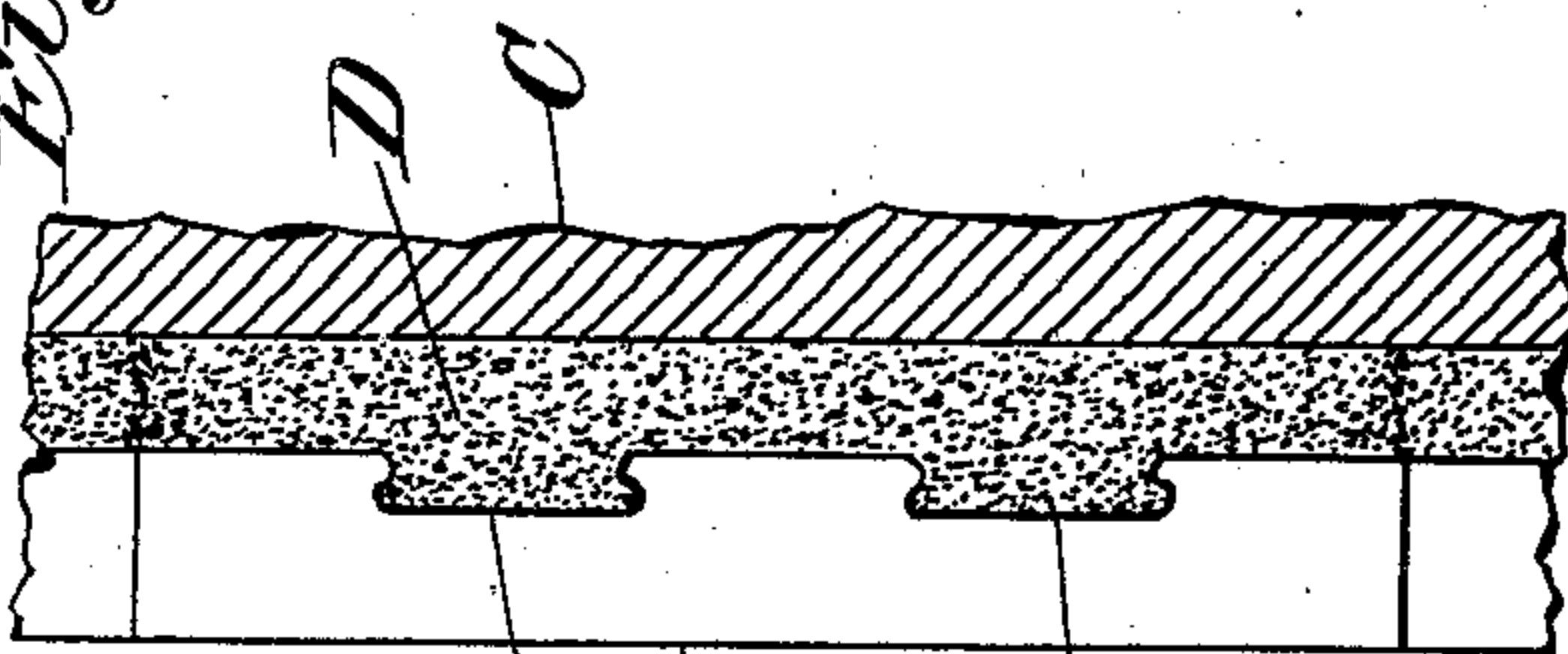


Fig. 7.

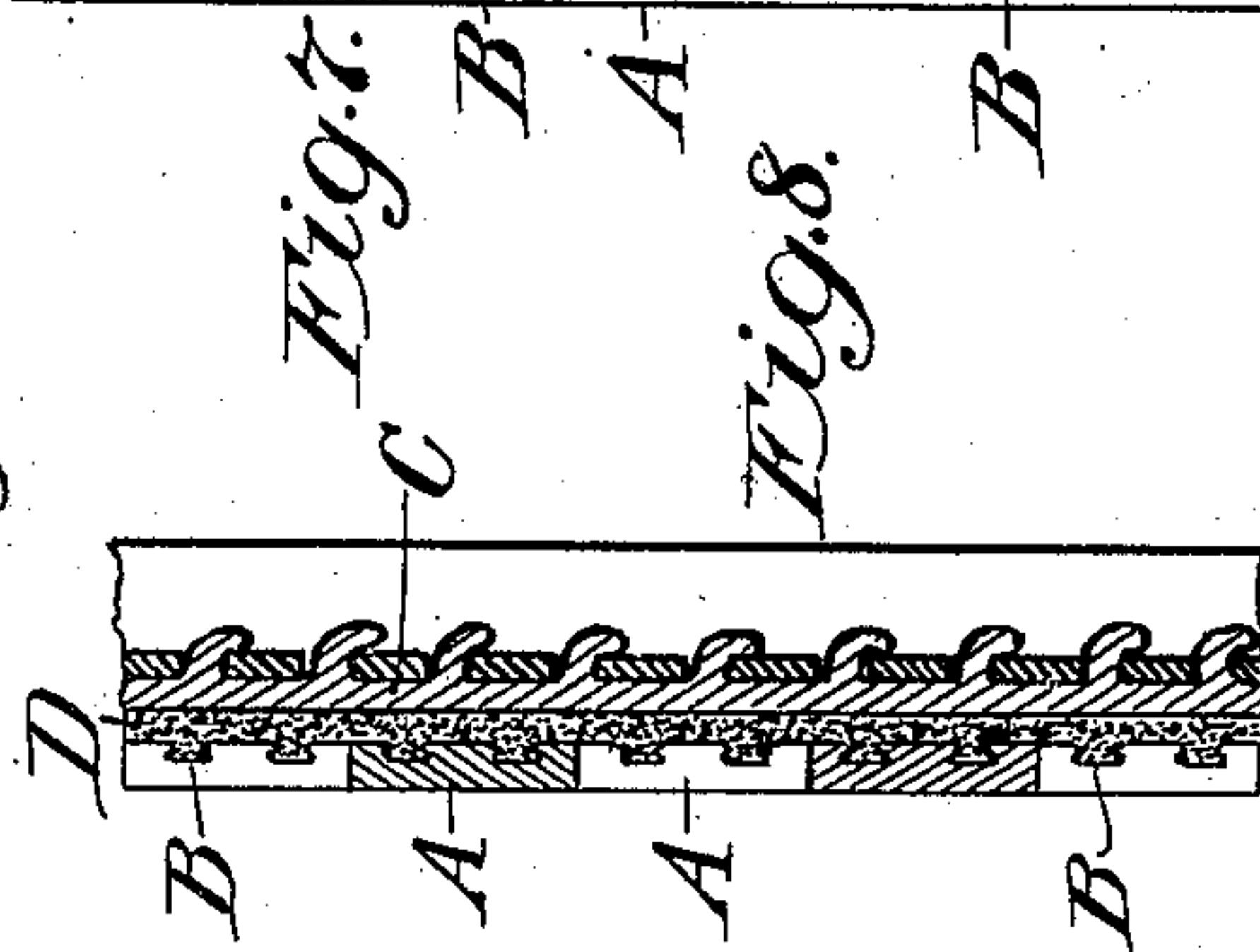


Fig. 8.

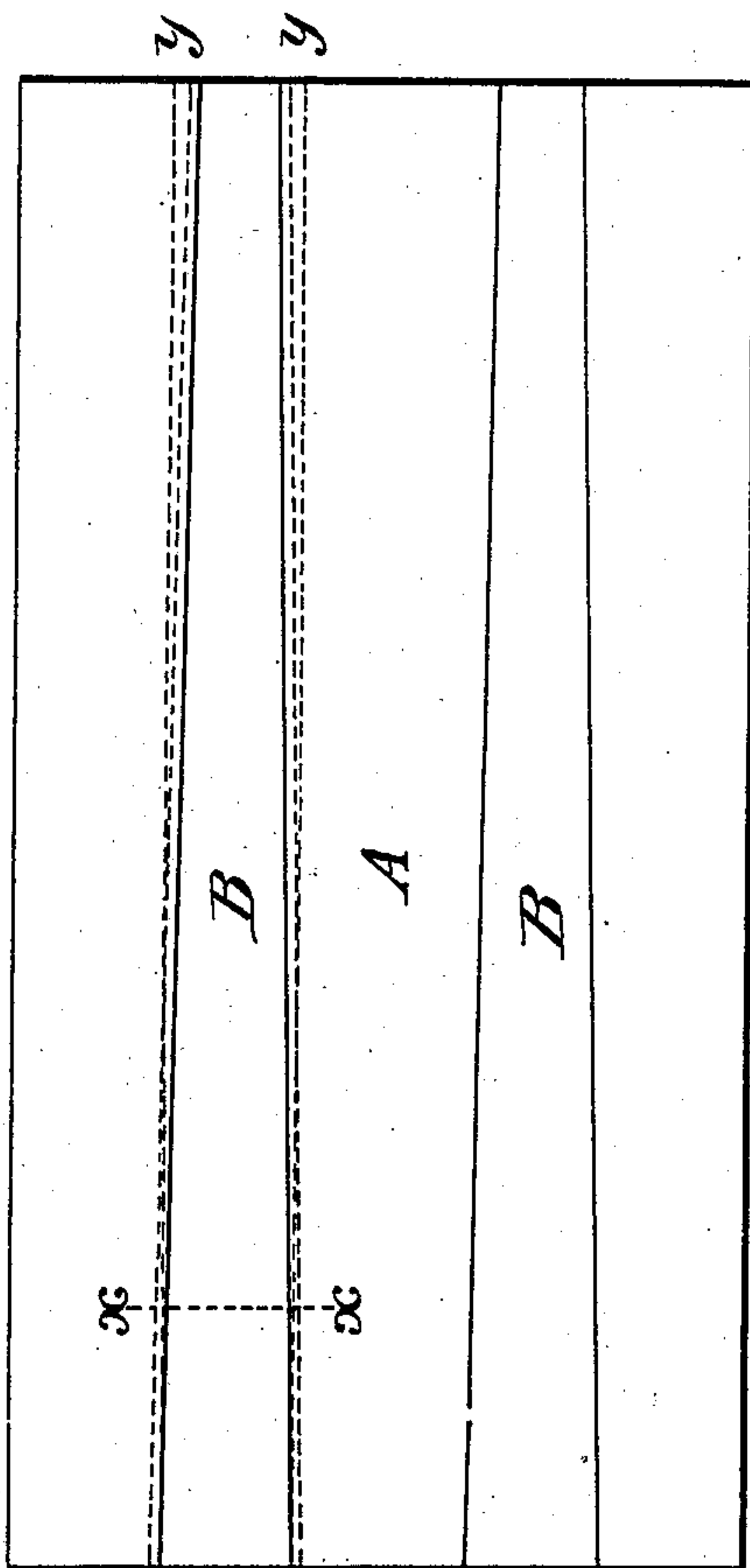


Fig. 4.

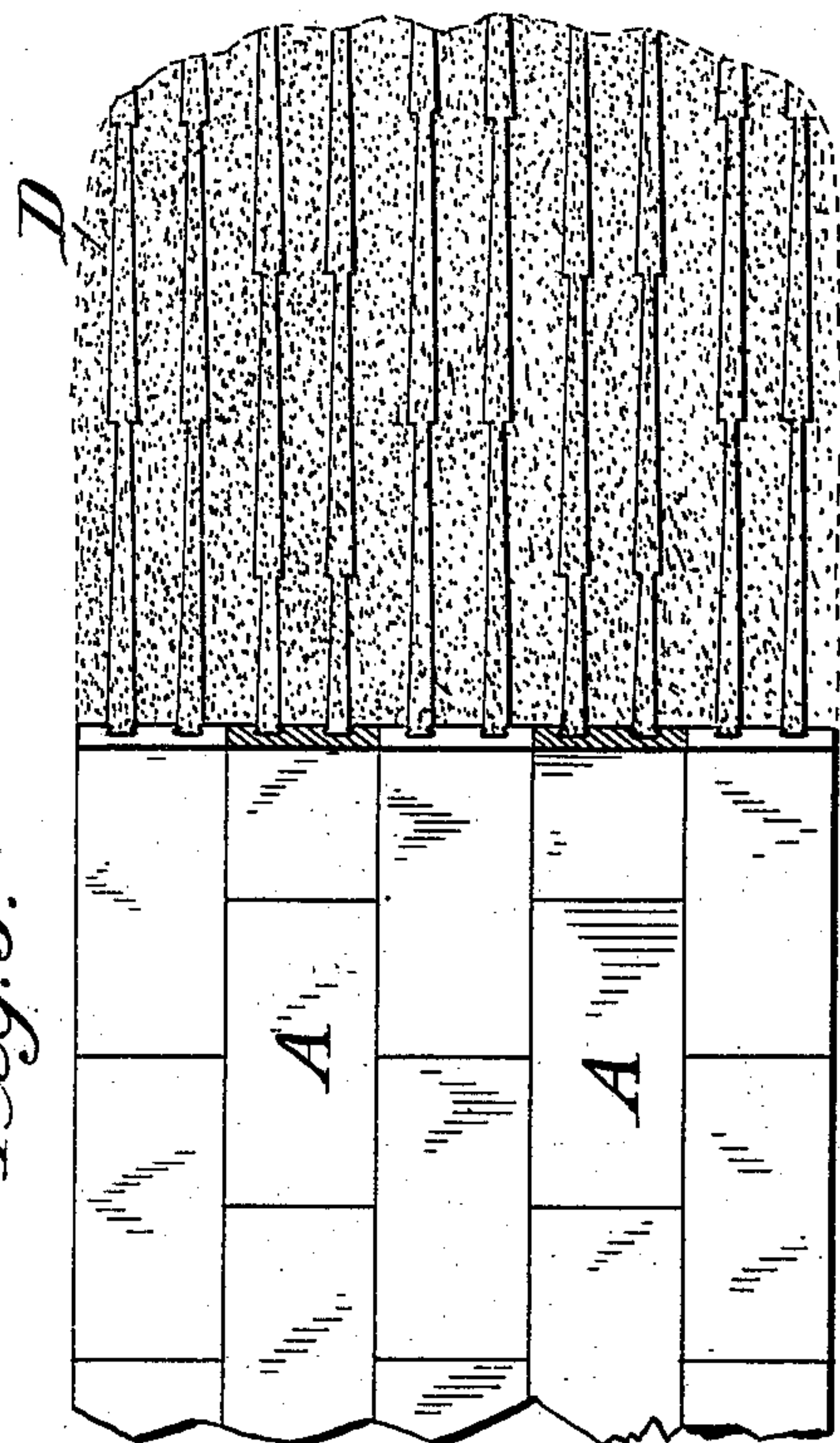


Fig. 9.

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Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM PASSMORE MEEKER, OF NEWARK, NEW JERSEY.

TILE-FACED SURFACE AND THE METHOD OF CONSTRUCTING SAME.

SPECIFICATION forming part of Letters Patent No. 691,791, dated January 28, 1902.

Application filed April 17, 1901. Serial No. 56,194. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PASSMORE MEEKER, a citizen of the United States, residing at Newark, Essex county, New Jersey, (whose post-office address is No. 139 West Kinney street, Newark, New Jersey,) have invented certain new and useful Improvements in Tile-Faced Surfaces and the Methods of Constructing the Same, of which the following is a specification.

My invention relates to tile-faced surfaces which are formed by first preparing a base, backing, or foundation and then attaching the facing-tiles thereto by means of interposed cement, and my improvements are directed particularly to certain novel features, whereby the tile is locked more effectually to the interposed cement than has been heretofore possible, and also to the method or manner of manipulation by which this is accomplished.

I will now proceed to more fully describe my improvements, referring in so doing to the accompanying drawings, in all the figures of which corresponding parts are referred to by the same reference-letters, and in which—

Figure 1 is a back view of a tile suitable for use in my improved construction. Fig. 2 is an end view of the same looking to the right on Fig. 1. Fig. 3 shows a section of tile-surface with one tile in the process of being set. Fig. 4 is a view of the under side of the tile, the dotted lines being for reference in explaining the amount of lateral movement desirable. Fig. 5 is a sectional view of a portion of tile-faced surface, showing a "battered" tile in the first stage of being applied. Fig. 6 shows the same in the second stage, and Fig. 7 shows the tile in final position. Fig. 8 is an edge view of a section of the tile-faced surface and backing; and Fig. 9 is a front view of a tile-faced surface, the tiles being broken off from a portion of the cement to show the formation of the cement behind the tiles when applied.

A is a tile suitable for use in forming my improved tile-faced surface. This tile is preferably of a light construction and highly glazed or vitrified, and its face may be ornamented in any suitable manner. Its back is

provided with dovetailed grooves B B, which have a decided flare toward one end.

C is the base or backing, which may be of lath and plaster, as shown in Fig. 8, or of any other suitable materials.

D is the cement which serves to bind the tiles to the backing.

In setting tiles with cement on surfaces the tiles may be either applied by "floating," in which case the surface is covered with cement and then the tile is forced into the cement by being pressed down into the latter, or the tiles may be applied by "buttering," in which case the back of the tile is first covered with cement and then the cement-covered back is pressed against the base or backing as the tile is placed in position; but where the plain-backed tiles are used the cement can only obtain a hold upon the tile by suction, and in time, especially where the surface is subject to jar, the tiles are very apt to become loose and if applied vertically or upon a hanging surface to fall off. This is also in degree the case where tiles with grooved or otherwise recessed backs have been heretofore used, partly owing to the manner in which they were applied, the tendency being to formation of air-cushions between the tiles and cement and the failure of the cement to thoroughly spread and clench behind undercut portions of the tile, so that, especially for wall and ceiling purposes, the hold of the cement upon the tile is often insufficient to retain the tile in its place, and bad and disfiguring breaks in the surfaces occur in consequence. By means of my method in applying the tile, whether by floating or buttering, the tile is not applied to the surface immediately over the position which it is finally to occupy. When it is first brought into contact with the cement, the undercuts of the grooves B B will not be thoroughly filled with the cement; but the latter will take a form somewhat as shown in Fig. 5, leaving openings at one or both sides between the cement and tile. If pressure is then applied directly upon the face of the tile, while there will be a certain amount of spreading of the cement into the undercuts it will not be complete and effective, and in case of air-pockets being formed they will not be worked out, so as to

bring the cement in thorough contact with the undercut surfaces of the tile-back, because the cement may spread laterally from beneath the edges of the tile. To avoid these
5 difficulties, I place the tile on the cement at some distance from the position which it is finally to occupy and with the flared ends of the grooves toward its final position. I then slide
10 the tile along on the cement until it reaches its desired position. The effect of this movement is to drive the cement from the wider ends of the grooves toward their narrower ends, and as the cement cannot escape backward out of the grooves it is forced to spread
15 itself into the undercuts, which it will do effectually and thoroughly if the movement is sufficient to make the lips of the groove displace half their bulk of cement, which will fill the other half of the groove and completely
20 close up all open spaces. In Fig. 4 the distance between the ends of the tile and the intersection of the dotted line $x x$ with the dotted lines $y y$, parallel with the edges of the tile and starting from the lip edges at the
25 wider ends of the grooves, shows a sufficient range of movement to effectually spread the cement into the undercuts, as already described. This lateral movement of the tile
30 also tends to eliminate air-cushions, as the smearing motion of the tile against the cement elongates the air cushions or bubbles and tends to spread them from under the tile and burst them. The grooves also being
35 open at both ends the air has a good opportunity to escape, so as not to interfere with the spreading of the cement into the grooves, thus avoiding the bubbles or air-cushions which are a very serious drawback to the use
40 of tiles with any form of recess or undercut the walls of which form a pocket or hollow when covered by cement.

By the use of my improved method and con-

struction I obtain a strong, thoroughly-interlocked, and durable tile-faced surface from which the tiles will not break away or drop
45 under any ordinary jar, such as the shaking of elevator-shafts and similar constructions, and which surface can be perfectly constructed with as much rapidity as the heretofore-used defective surfaces. 50

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The above-described method of constructing a tile-faced surface, consisting of
55 applying the tile upon plastic cement, interposed between it and the backing, to one side of the position which it is ultimately to occupy, and then sliding the tile laterally into position, substantially as described. 60

2. In a tile-faced surface, the combination, with a backing, of a layer of cement, provided upon its outer surface with integral flanges, formed of continuous, flaring dovetailed members, and presenting indented undercut edges,
65 and facing-tile, provided upon their backs with flaring dovetailed grooves open at both ends, interlocked with the flanges on said cement, substantially as described.

3. In a tile-faced surface, the combination,
70 with a backing, of a layer of cement, provided upon its outer surface with integral flanges, formed of continuous, flaring dovetailed members each of the same length as an applied tile, and presenting indented undercut edges,
75 and facing-tile, provided upon their backs with flaring dovetailed grooves open at both ends, interlocked with the flanges on said cement, substantially as described.

WILLIAM PASSMORE NEEKER.

Witnesses:

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