

No. 894,489.

PATENTED JULY 28, 1908.

J. W. FARR.

TILE.

APPLICATION FILED FEB. 10, 1908.

Fig. 1.

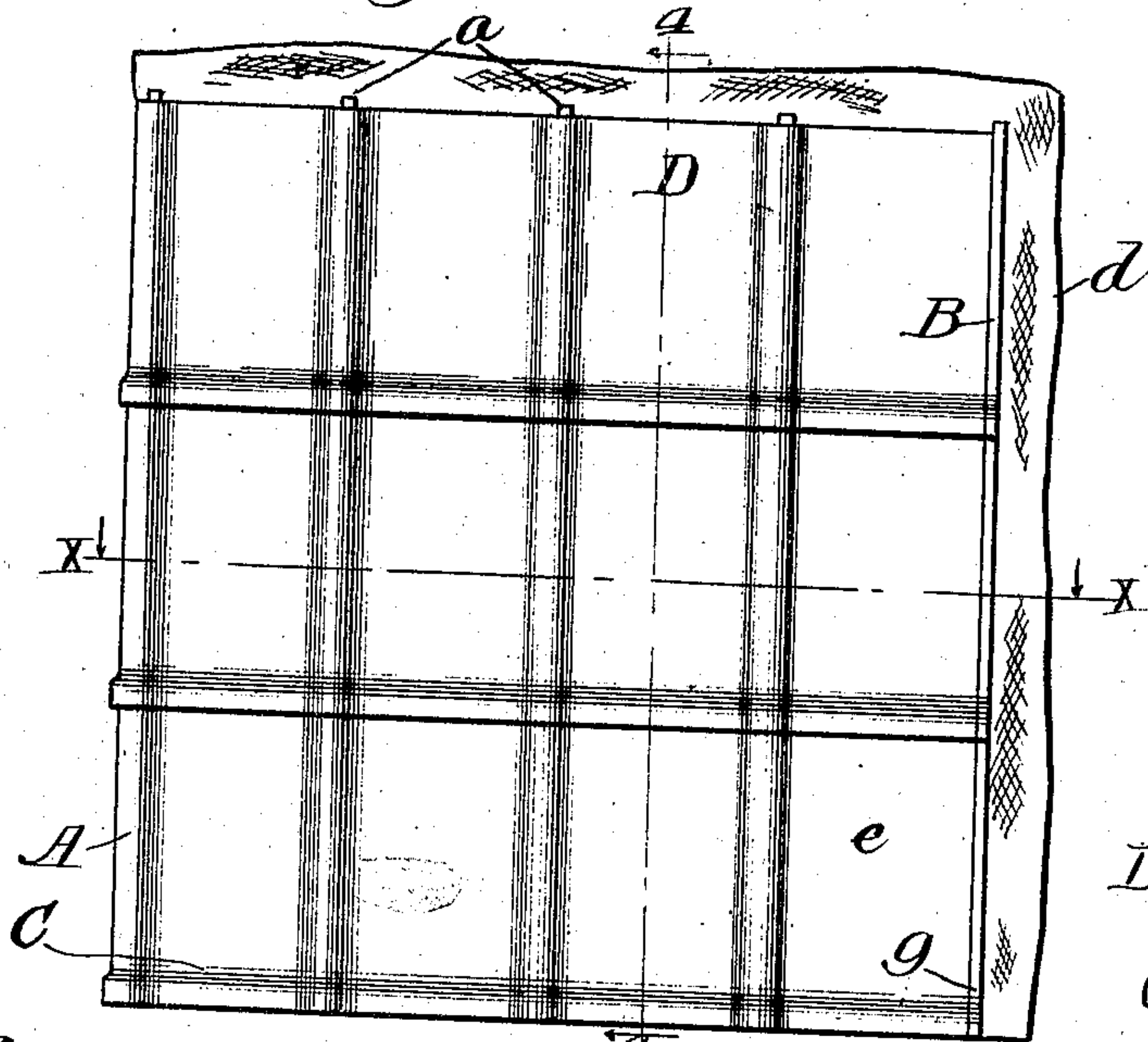


Fig. 2.

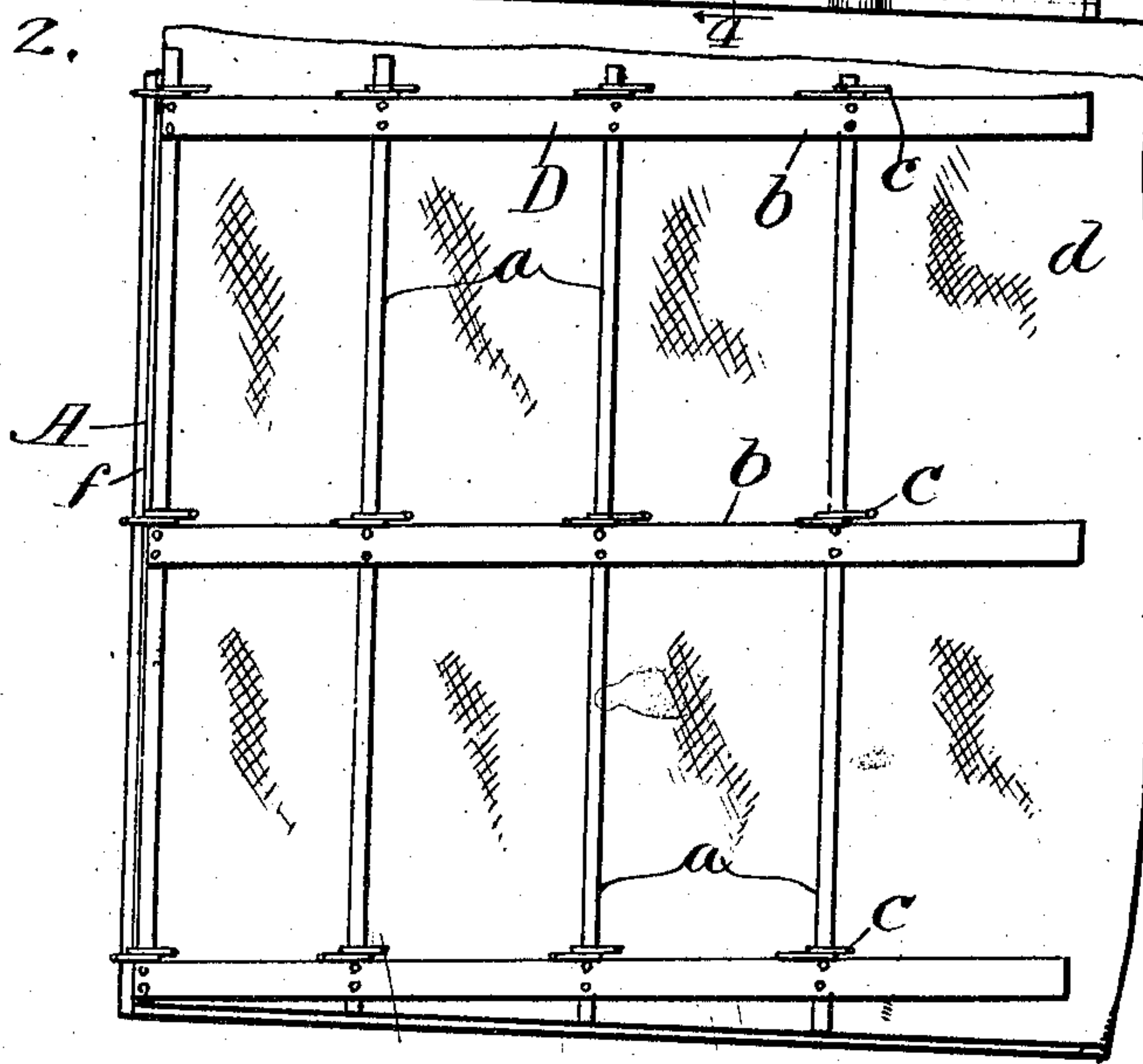


Fig. 4.

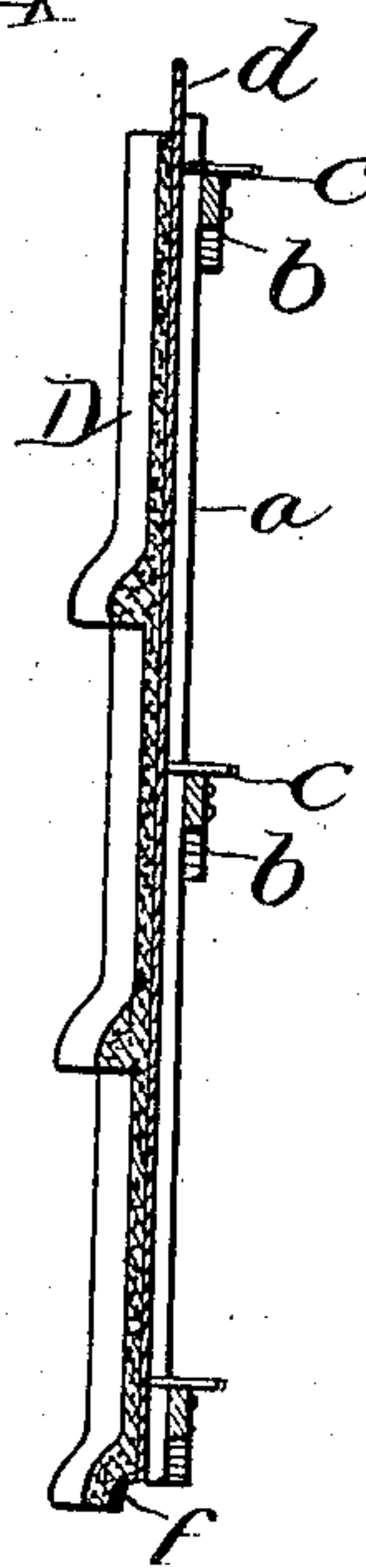
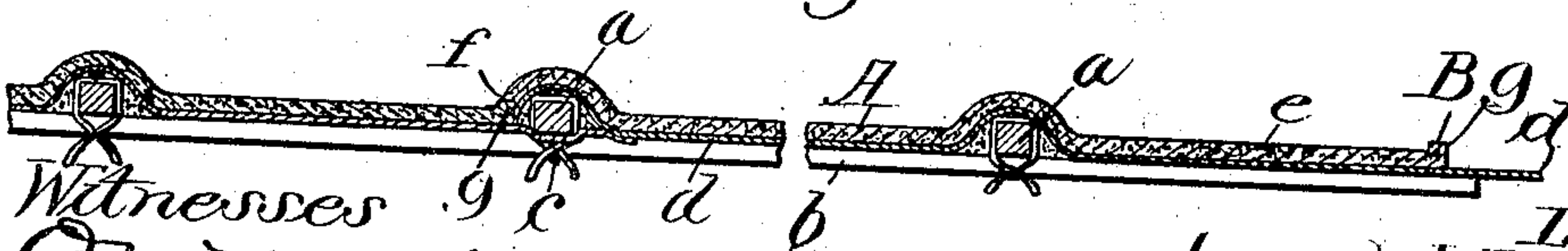


Fig. 3.



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TILE.

No. 894,489.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed February 10, 1908. Serial No. 415,106.

To all whom it may concern:

Be it known that I, JOSEPH W. FARR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Tile, of which the following is a specification.

My invention relates to improvements in tiles in which a frame is provided which is adapted to fulfil the structural requirements of a tile as far as strength and assembly are concerned and which will also support and carry the tile-element; and the objects of my improvement are, first, to reduce the weight of the tile which, at present, has to be specially provided for in the structure to which they are applied, second, to facilitate the application or assembly of the tile, third, to greatly strengthen the tile, and, fourth, to reduce the cost of tile to a point where it can be available in many lines from which it has hitherto been excluded by reason of its cost. I attain these objects by the combination of structural elements and features illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of my improved tile, Fig. 2 is a bottom plan view of the tile, Fig. 3 is a sectional view of the tile along the line X—X of Fig. 1, and Fig. 4 is an end view of two tiles in assembly.

Similar letters refer to similar parts throughout the several views.

The supporting frame comprises a plurality of parallel, properly spaced ribs, *a*, held in proper relation to each other by the cross-strips, *b*, which are firmly secured to the ribs, *a*, by nailing or riveting or in any other suitable manner. The ribs, *a*, however, should be disposed to project away from the cross-strips and there should be no mortising to bring the ribs and cross-strips into the same planes. Around the ribs, at proper places, are disposed the wire loops, *c*, which are adapted to be twisted around the rafters or other support to which the tile is to be finally attached to hold it firmly in place. Other means may be attached to the ribs for this purpose without departing from the spirit of my invention. I have found, however, that wire loops, such as here described, adapt themselves to be readily adjusted and will secure the tile in place in a most permanent way and, at the same time, permit a tile to be removed and another put in its place with much less trouble than if the tile was nailed in place.

Lying over the ribbed side of the support-

ing frame and cemented to the upper surface of the cross-pieces and around the ribs I provide a textile fabric, either metal or fiber, or a pliable piece of what is known in the market as expanded metal. This layer or element is designated in the drawings by the letter *d*.

Upon the upper surface of the fabric or expanded metal I spread a thin layer, *e*, of suitable cement composition which enters somewhat into the fabric or expanded metal and when it hardens firmly adheres thereto making a thin cement tile coating for the frame.

It will be seen that the ribs produce ridges or corrugations in the surface of the cement tile. This I consider an important element in the structure. The corrugations in the cement coating in themselves strengthen the cement layer; and, the corrugations extending partially around the ribs as they do, the cement of which the corrugations are made more firmly fixes the ribs in place while the ribs in connection with the cross-pieces give to the structure as a whole all the necessary structural strength for shipping, assembly and use as a tile. The thin layer of cement, otherwise, would be entirely too thin and brittle for shipping or tiling use.

My tile is entirely different from the structure formed by molding cement around reinforcing bars because in that case the cement is still the real structural element. It has the weight, cost, brittleness and expansion and contraction of the ordinary tile and acquires merely a greater resistance in certain directions. It is quite impracticable to mold cement in sheets as thin as the layer I employ and have them retain their shape much less the structural qualities necessary in commercial tile.

The cement layer in my tile being so thin has considerable more elasticity and adapts itself peculiarly to the service required of covering tile. In ordinary tile provision has to be made for expansion and contraction; but with my tile the thin somewhat elastic cement covering bends in its corrugations and no such provision has to be made.

As is well known tile is never worn away to any appreciable extent. The surface of the tile is its principal feature and the much greater bulk and weight of material behind the surface being added merely for strength and structural and assembly purposes.

It is possible to make my tile in pieces having a much greater covering surface than

ordinary tile on account of its lightness and strength. In order to overcome the prejudice that usually encounters the introduction of a new article to the market, I have given the surface the appearance of several of the usual tile as they are ordinarily laid, with the exception that each tile appears to have a corrugated side.

As clearly shown in the drawings, the side, A, is provided with a channel, *f*, upon its under edge which is of sufficient height to receive the side, B, of the next adjacent tile provided, as is seen, with the ridge, *g*. This ridge, *g*, upon the side, B, is to prevent moisture from seeping into and trickling through the joint. The end, C, of the tile is also provided with a channel similar to the channel, *f*, which is adapted to overlap the end, D, of the next adjacent tile. It will be further seen that I extend the fabric or expanded metal layer, *d*, beyond the cement layer, *e*, on the side B, and end, C, of the tile. After the tile has been properly secured in place this extended portion of the fabric is cemented to the adjacent tile to completely seal the joint. The ribs, *a*, do not come quite to the end, C, of the tile while they project a short distance beyond the end, D. This is to secure a dovetailing or mortising of the respective tile together by means of the overlapping of the cement and underlapping, so to speak, of the ribs. Again it will be noticed that the cross-strips, *b*, project from both sides of the tile and are disposed at an angle with the ribs so that the ends of the cross-strips upon adjacent tile cannot abut. This arrangement is for the same over and under lapping purpose.

I will now outline the best method, as far as I know, of constructing my tile.

In order to give the outer surface of the tile a suitable appearance, I employ a mold (not shown in the drawings) having suitable depressions running entirely across it for forming the corrugations and any other superficial configuration which it may be desired to give to the surface of the tile. I cover this mold or form with a suitable cement layer, *e*, in a very plastic condition to only a slight depth. While this layer of cement is still in a plastic condition, I place upon it either the textile or expanded metal, *d*, so that the cement in hardening will harden in and about said textile or expanded metal and firmly adhere thereto. In the mean time I have had prepared the frame work comprising the pieces, *a*, which are of such size and length to fill the corrugations in the cement and fabric layers, and the cross-strips, *b*. There are a sufficient number of the pieces, *a*, to fill each corrugation, and they have been properly spaced to correspond with the corrugations. After the frame has been so fixed I provide the pieces, *a*, at suitable intervals with the wire loops, *c*.

Before the cement and fabric layers have hardened, I place upon them the frame so that the pieces, *a*, will rest in the corrugations. I then fill in the corrugations with sufficient cement to secure an adhering between the frame and the fabric and cement layers and permit the whole to harden.

Having now described my improved tile and a suitable method of producing same, what I claim as new and desire to secure by Letters Patent is:—

1. A tile comprising a frame work of parallelly disposed projecting ribs and transversely disposed cross-pieces, a reticulated layer having corrugations into which project said projecting ribs, and an hydraulic cement filling and coating for said reticulated layer.

2. A tile comprising a frame work of parallelly disposed projecting ribs and transversely disposed cross-pieces, pliable loops surrounding and extending rearwardly from said ribs, a reticulated layer cemented to the side of said frame from which said ribs project having corrugations for the reception of said projecting ribs, and an hydraulic cement filling and coating for said reticulated layer.

3. A tile comprising a frame work having an uneven superficial configuration, a reticulated covering for said frame work adapted to conform to the uneven configuration thereof, and an hydraulic cement coating for said covering of sufficient thinness at the uneven portions thereof to permit of bending to accommodate the natural expansion and contraction of the cement.

4. A tile comprising a frame work having projecting ribs, a reticulated covering for said frame work corrugated to accommodate said projecting ribs and an hydraulic cement filling and coating for said covering of sufficient thinness to permit of bending to accommodate the natural expansion and contraction of the cement.

5. A tile comprising a frame work, a reticulated covering for said frame work and an hydraulic cement filling and coating for said covering of sufficient thinness to permit of its bending to accommodate the natural expansion and contraction of the cement.

6. A tile comprising a frame work of uneven superficial configuration, a reticulated covering extending beyond said frame work upon two sides and adapted to conform to the uneven configuration thereof, and an hydraulic cement filling and coating disposed upon that portion of said covering which is above said frame work.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

JOSEPH W. FARR.

Witnesses:

BENJ. T. ROODHOUSE,
E. M. PATTERSON.