No. 708,194.

Patented Sept. 2, 1902.

G. H. BENNETT.

TILING.

(Application filed Jan. 18, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1,

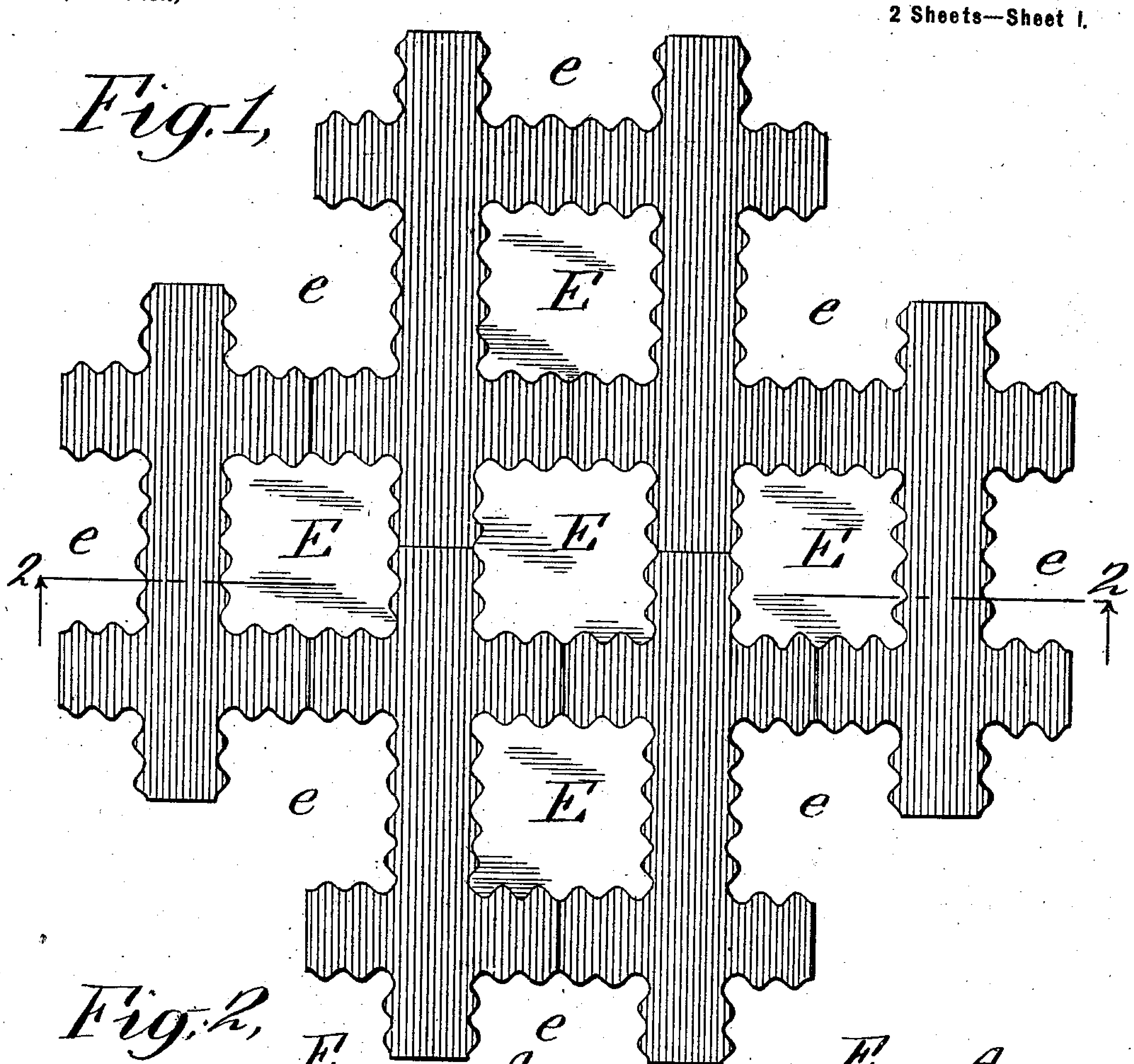


Fig. 2,

Fig. 5

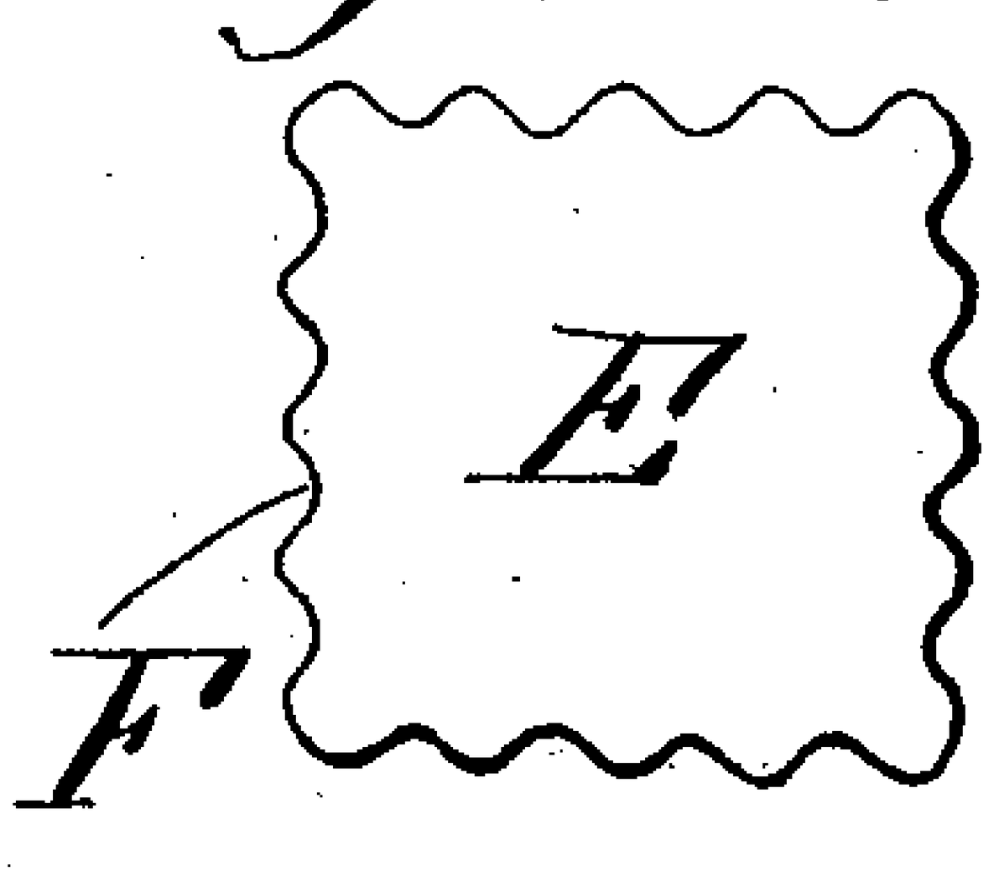


Fig. 3,

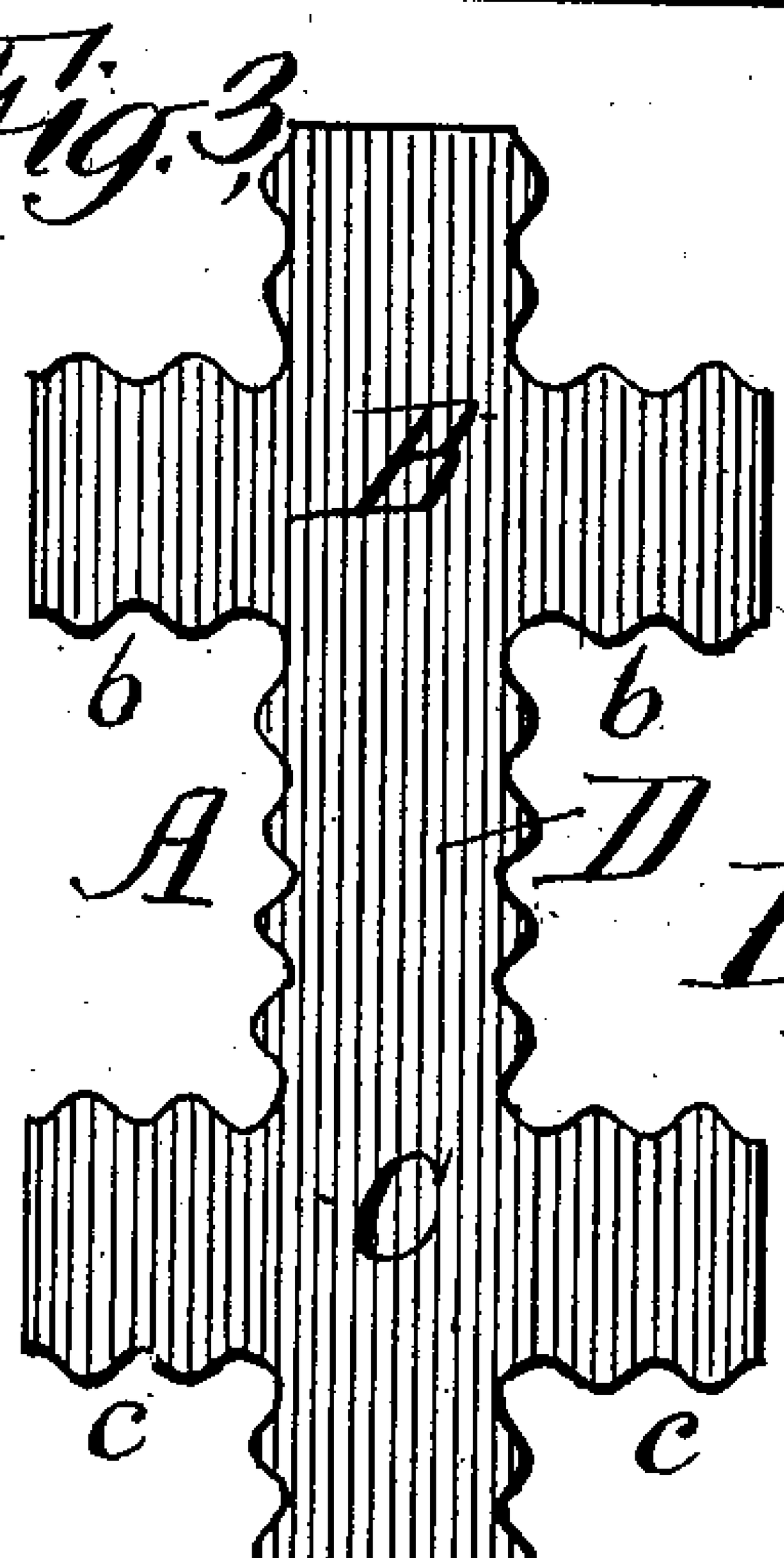


Fig. 6

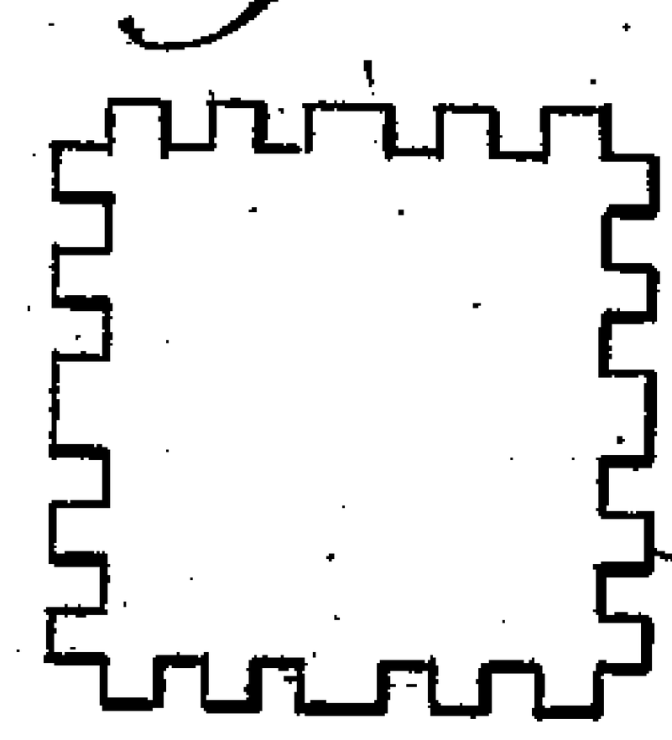


Fig. 4

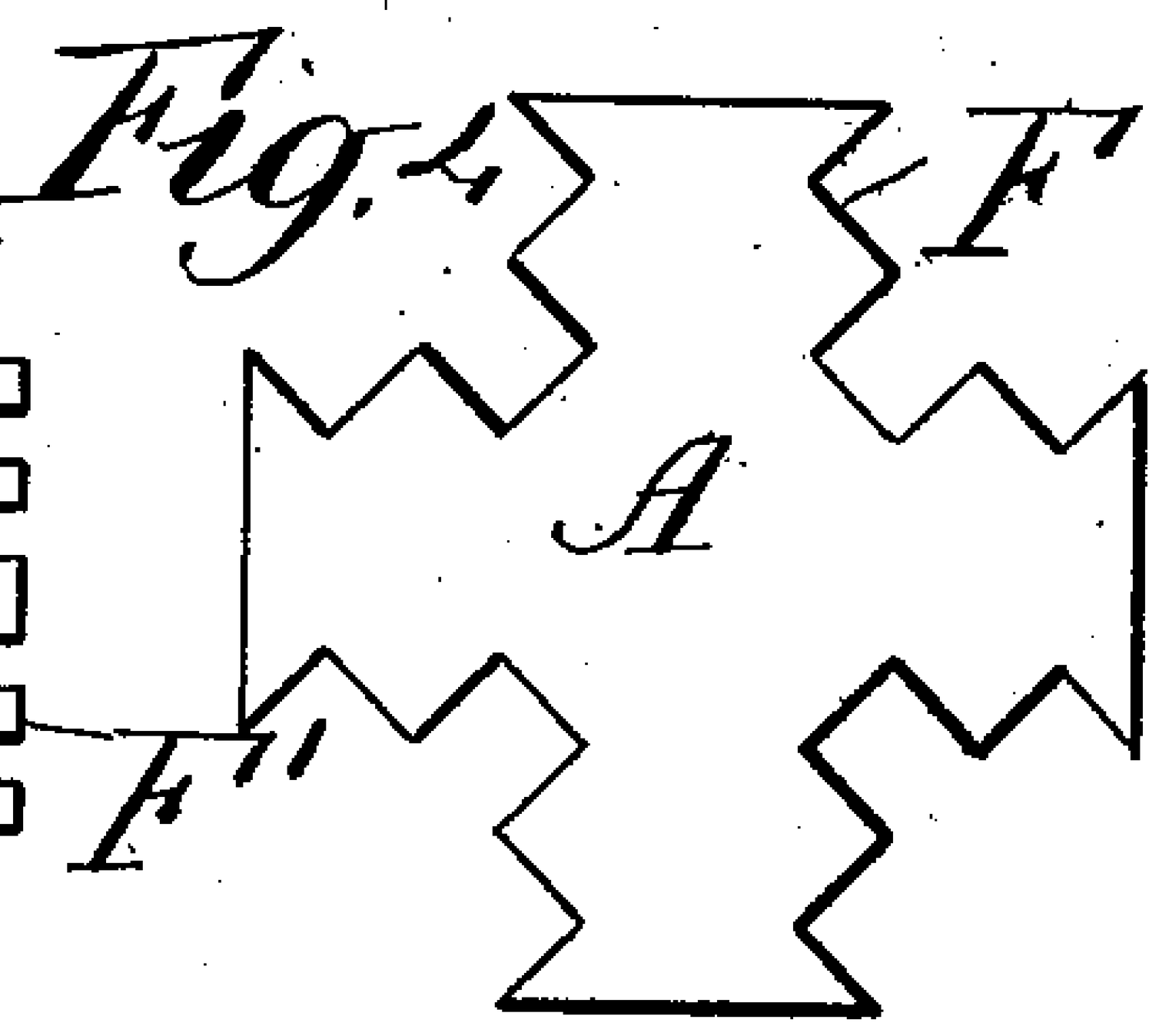
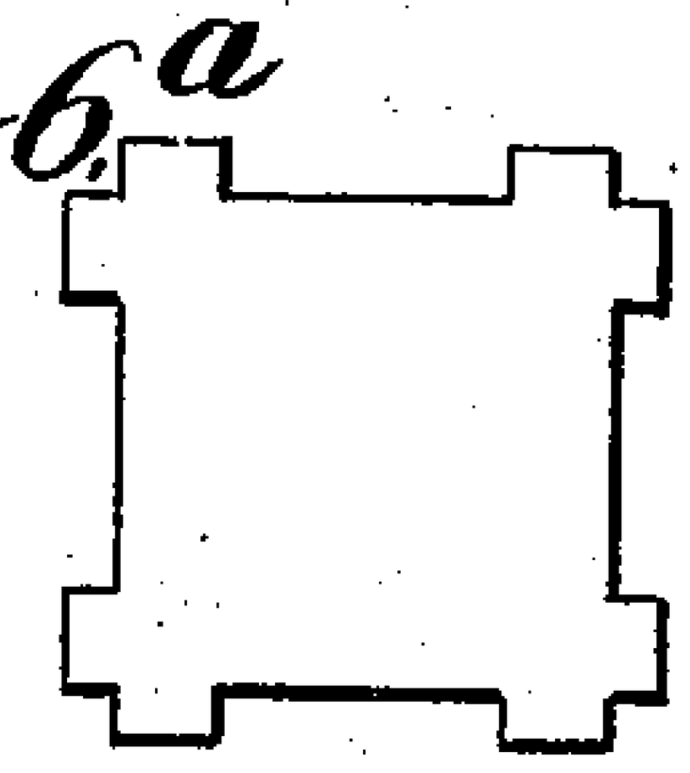


Fig. 6a



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TILING.

(Application filed Jan. 18, 1902.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 7.

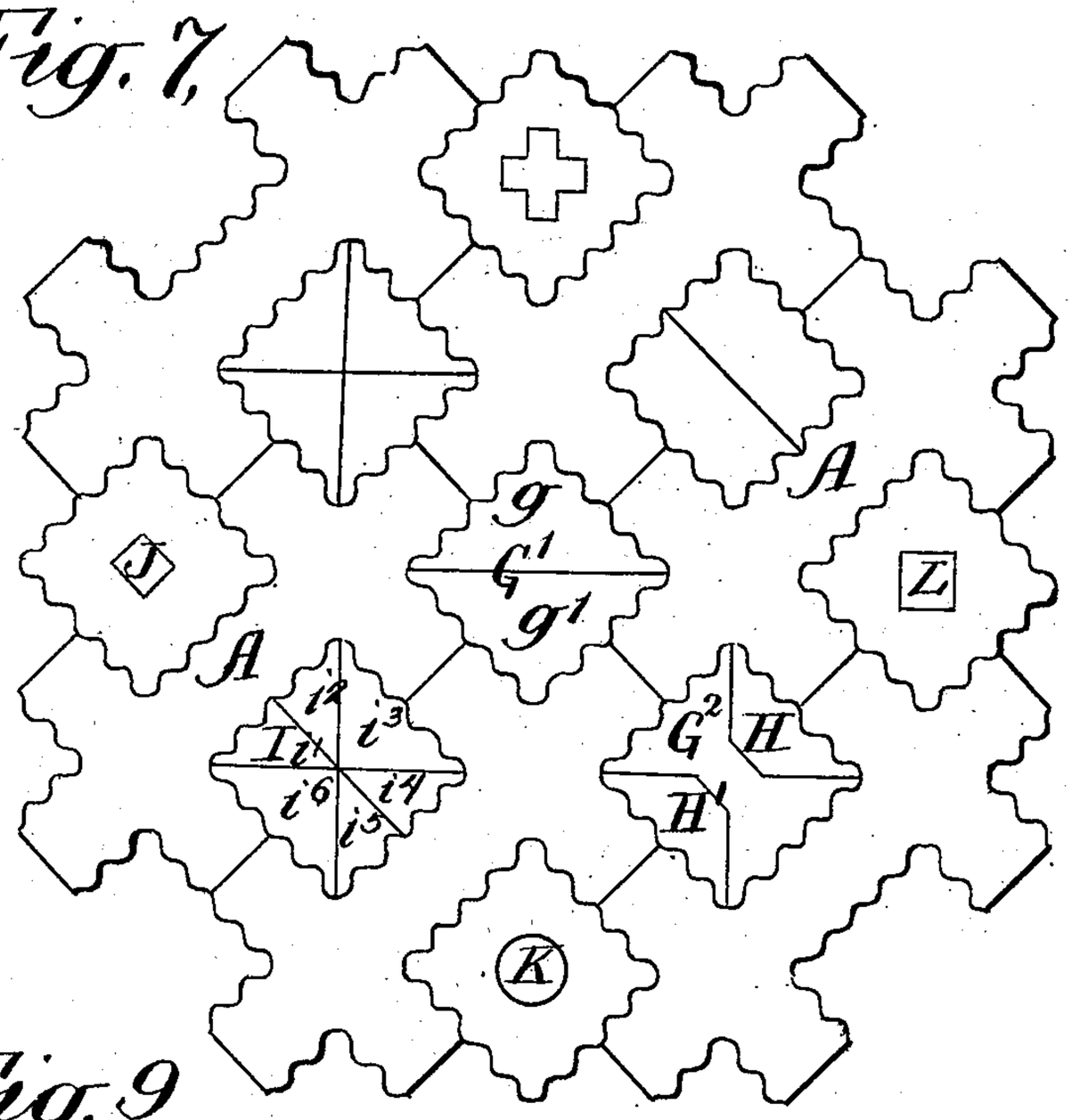


Fig. 9

Fig. 8,

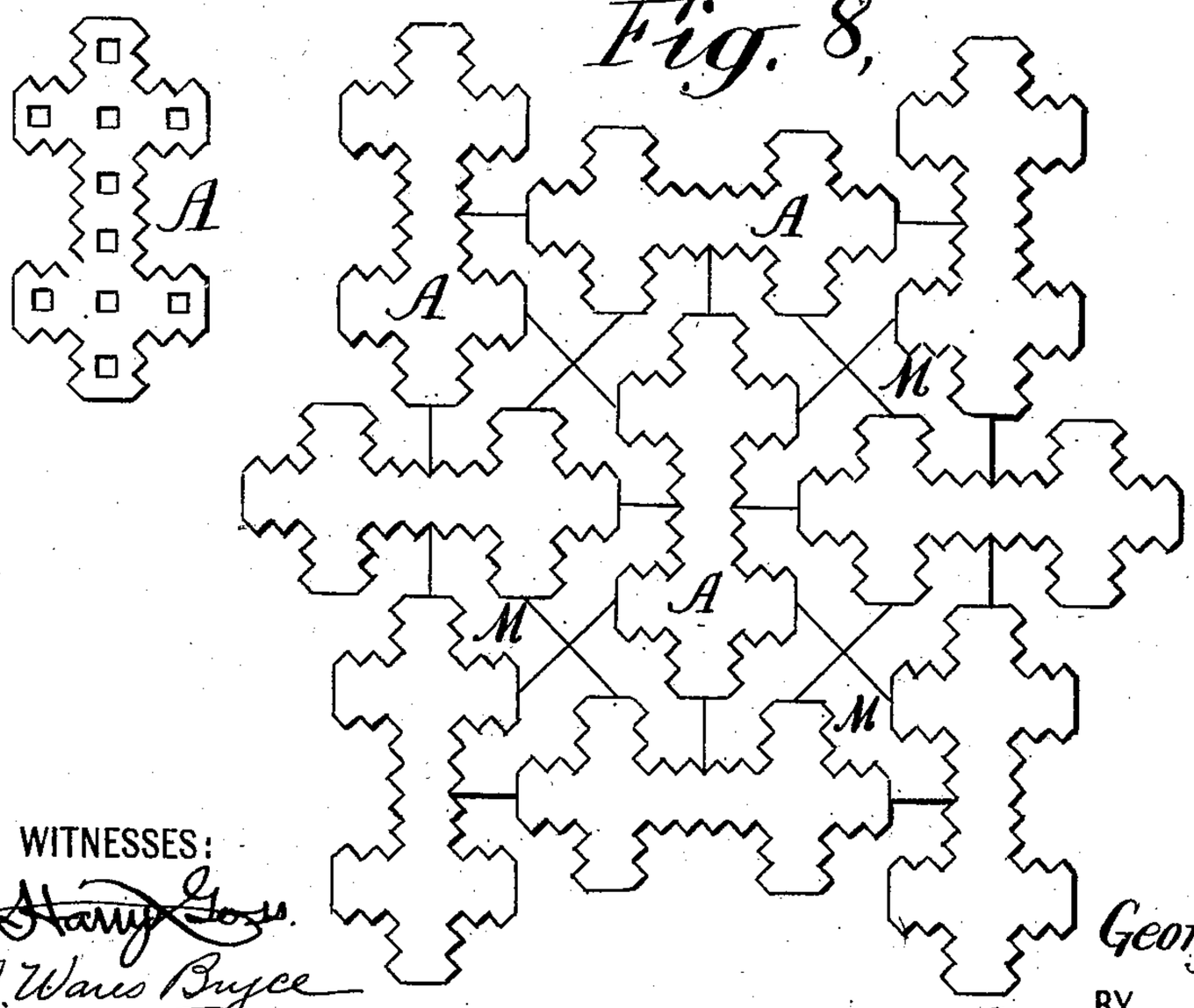
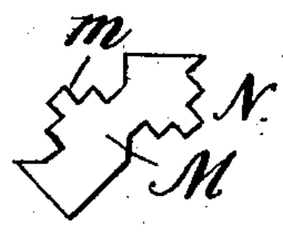


Fig. 10,



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TILING.

SPECIFICATION forming part of Letters Patent No. 708,194, dated September 2, 1902.

Application filed January 18, 1902. Serial No. 90,228. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. BENNETT, a citizen of the United States of America, and a resident of the city of New York, county of New York, State of New York, have invented certain new and useful Improvements in Tiling, of which the following is a specification.

My invention relates to a new and improved floor-tiling, although it may very appropriately and effectively be used as a covering for side walls and ceilings.

The tiling may be of any suitable material used for such purposes, such as rubber, rubber compound, and ceramic ware, papier-mâché, &c.

My invention is embodied in two tiles adapted to intermesh and connect. One of the tiles is in the general form of a heraldic cross—that is to say, a cross in which the arms are of equal length, although their proportional length, width, and size may be increased or decreased, as desired. For general use, however, I prefer to construct a tile comprising two of the crosses, the adjoining ends of two of the arms of which are permanently united endwise, thereby producing a double-cross tile, hereinafter referred to as a "cross-tile" and which serves to lock all the tiles securely and thoroughly together. The cross-tiles are arranged in juxtaposition—in some instances with the ends of their arms in endwise contact and in others with their arms intermediate with those of the adjoining cross-tiles. With either arrangement there are formed spaces between the arms of the tiles. The spaces between the arms of the cross-tiles are filled by the second tiles, which will be hereinafter referred to as "block-tiles" and which may be in one piece or subdivided to fill spaces to produce artistic effects and also to provide suitable pieces for filling interstices, such as would be formed between the edges of the tiling and an adjacent side wall. However formed, the block-tiles engage with, connect, and are locked by the cross-tiles in position and together. The shape of the block-tiles will also vary in order to admit of varied arrangement of the cross-tiles. Whatever the precise shape of the block-tiles, they are secured together with adjoining arms of the cross-tiles, and the outer edges of all of the tiles are formed with corresponding and continuous serrations or corrugations, so that any block-tile or subdivision thereof will intermesh and engage with any cross-tile of similar type. The serrations are preferably rounded at top and bottom into the form of corrugations in order to impart greater flexibility of contact and strength to their edges, although for some purposes the crenelated or serrated edge may be employed. It will be apparent that these forms of serrations are much stronger and far more durable than any means of connection extending singly—that is to say, unsupported beyond the body of the tile—in any form. Further details of construction and arrangement will be hereinafter pointed out, and referred to in the appended claims.

In the accompanying drawings, Figure 1 is a plan view showing a plurality of tiles arranged in their operative relation. Fig. 2 is a transverse sectional view on the line 2 2 of Fig. 1. Fig. 3 is a detailed view of one of the cross-tiles. Fig. 4 is a detail view of one of the single tiles, showing the serrations having sharp points. Fig. 5 is a detail view of one of the block-tiles. Fig. 6 is a plan view of a block-tile having crenelated edges. Fig. 6ª is a plan view of a slightly-different block-tile having spaced crenelated edges. Fig. 7 is a plan view of a plurality of cross-tiles and block-tiles arranged in operative relation, the block-tiles being variously subdivided. Fig. 8 is a plan view showing a plurality of cross-tiles arranged in different relation to each other, together with a modified form of block-tiles. Fig. 9 is a detail view of one of the double cross-tiles formed with apertures filled with like material of differing color or colors. Fig. 10 is a detail view of the modified form of block-tiling shown in Fig. 8.

In the drawings, A indicates the main tile, which is in the form of a double cross—that is to say, having the general shape of two square or heraldic crosses with two of their arms joined together endwise—B indicating one cross and C the other. These crosses are provided with the cross-arms *b b c c*, which are at right angles to the central longitudinal member or portion D.

E is one of the block-tiles, which in this instance is square. The edges of all of the tiles

are formed with serrations, which are preferably rounded to form corrugations F, which extend continuously about the outer edges of the block-tiles and of the arms of the tiles A, the said corrugations being of the same depth and pitch and adapted to register and intermesh in any position. The corrugations extend at right angles to the surfaces of the tiles, so that there is no dovetailing, either vertical or lateral, nor any undercutting, and a tile may be withdrawn from the floor, leaving an opening into which another can be fitted without disturbing or displacing any of the adjacent tiles.

In Fig. 4 I have shown a cross-tile A having pointed notches or serrations F, and in Fig. 6 a form in which square projections F′ are arranged to form crenelated edges which similarly engage and intermesh. In the construction shown in Fig. 1 the cross-tiles A are arranged with their ends and arms in contact, which results in forming square openings *e* between them into which block-tiles E are fitted. These tiles E extend across and cover the joints between the ends of the arms of the cross-tile and by reason of the form of their edges bind all the tiles securely together.

In Fig. 7 the cross-tiles A are as just described, the difference between Fig. 1 being that the block-tiles G are subdivided into different forms—for instance, the tile G′ is subdivided into two triangular portions *g* and *g′*, the tile G is subdivided into three portions G^2 H H′, while the tile I is subdivided into six portions i' i^2 i^3 i^4 i^5 i^6, each of which is a triangle. Not only may these subdivided block-tiles be used for artistic effect by coloring the part as desired, but the different pieces provided by so dividing are of greatest convenience in filling the space produced between the ends of the tiles abutting against a side wall. I may also form the block-tiles with variously-shaped inlaid central pieces, as at J K L, L being square, K round, and J diamond shape.

As indicated in Fig. 8, the arrangement is modified by arranging the cross-tiles A so that the arms of adjacent tiles do not touch, but on the contrary are arranged equidistant from each other. This construction results in the formation of spaces between the arms of an irregular form, which, however, can be filled by means of a multiplicity of block tiles all the same shape. One of these block-tiles M is shown separately in Fig. 10, where it will be seen that it has corrugated sides *m* N. One of its ends is squared to meet a corresponding tile from an opposite direction, while its other end *n* is in wedge form to fit in between similar ends of three other similar block-tiles in what might be termed the "central space" or the meeting-point of four cross-tiles. In this case also the corrugated edges of the block-tiles engage the corrugated edge of the cross-tiles and serve to secure the whole together without the employment of tongues, entering wedges, or parts distinctly secured within one another. Furthermore, the construction admits of exceedingly artistic effects, while being economical in construction and durable in use.

In view of the foregoing it will be understood that minor modifications in the construction and arrangement of my improved tiling may be made by those skilled in the art without departing from my invention, and I therefore do not limit myself to the exact details illustrated and described.

Obviously the tiles may be made in any desired sizes according to the purpose for which they are to be used. Also it will be apparent that a group or groups may be formed—that is to to say, that a plurality of the tiles may be permanently joined together to form a design by attaching their edges in any desirable and convenient manner before they are placed upon the actual surface to be covered. With my improved tiles the edges may be also slightly beveled to retain their respective positions.

Having described my invention, what I claim is—

1. A floor-covering, comprising the combination of tiles having arms, formed with corrugated or serrated edges, said arms arranged in juxtaposition to form spaces between them, and block-tiles the edges of which are correspondingly corrugated or serrated fitting within and filling the spaces between the arms.

2. A floor-covering, comprising the combination of a plurality of removable cross and block tiles, the cross-tiles having arms, the extremities of which are arranged in juxtaposition to form spaces between them, and the block-tiles fitting within and filling the spaces between the arms, the edges of all of the tiles being formed with corresponding corrugations or serrations adapted to engage and intermesh.

3. A tile-floor covering, consisting of a plurality of removable tiles, all of the tiles being formed with corrugated or serrated edges, the corrugations or serrations being symmetrical in form, their central axes extending at right angles from the edges of the tiles, and being at right angles to their surfaces, the formation of the edges in all the tiles corresponding and being adapted to engage and intermesh throughout.

4. The combination with a block-tile of two tiles, each in the form of a double heraldic cross, the adjoining arms of the crosses forming spaces adapted to receive and contain various-formed block-tiles, and all being removable.

5. The combination with block-tiles of tiles, each in the form of a double heraldic cross, the adjoining arms of the crosses forming spaces adapted to receive and contain the block-tiles, the edges or margins of all of the tiles being formed with corrugations or serrations of equal dimensions, and adapted to intermesh, engage and be removable.

6. A floor-tile comprising cross-tiles, the

arms of which are arranged in juxtaposition to each other forming inclosed spaces, and block-tiles adapted to fit into and fill said spaces, the edges of all of the tiles being formed with corresponding and engaging corrugations or serrations arranged at right angles to the surfaces of the tiles.

7. A floor-covering, comprising the combination of tiles having arms, the extremities of which are arranged in juxtaposition to one another to form spaces between them and a plurality of subdivided block-tiles fitting within and filling the spaces between the arms, and all being removable.

8. A floor-covering, comprising the combination of cross-tiles having arms the extremities of which are arranged in juxtaposition to form spaces between them, and a plurality of block-tiles fitting within and filling the spaces between the arms, said block-tiles uniting to fill the space between the said arms and formed with corrugated or serrated outer edges, the serrations in the block-tiles corresponding and adapted to intermesh with the serrations in the arms.

Signed at New York, N. Y., this 14th day of January, 1902.

GEORGE H. BENNETT.

Witnesses:
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ALBERT W. PHILLIPS.