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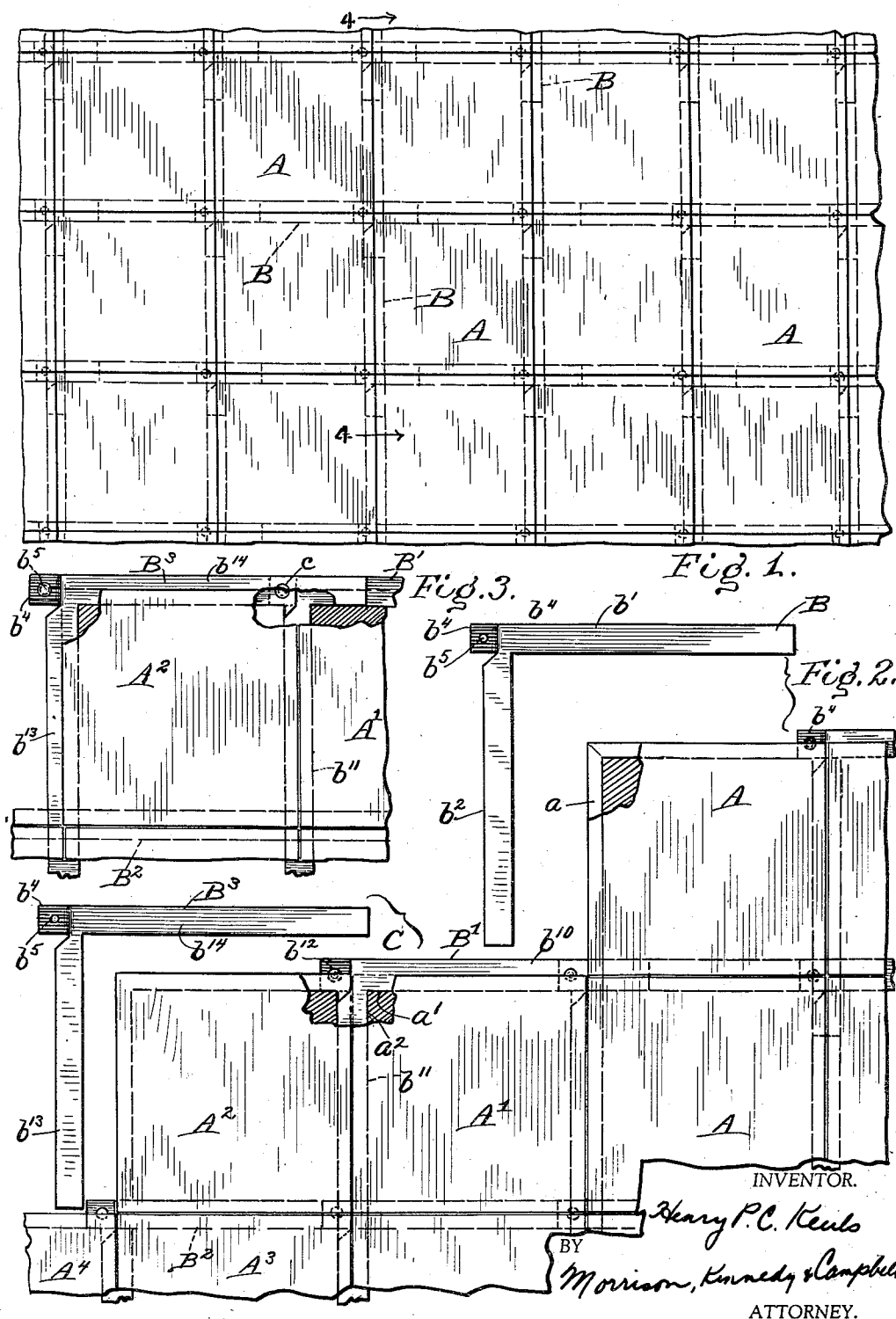
H. P. C. KEULS

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TILE CONSTRUCTION

Filed March 28, 1933

2 Sheets-Sheet 1



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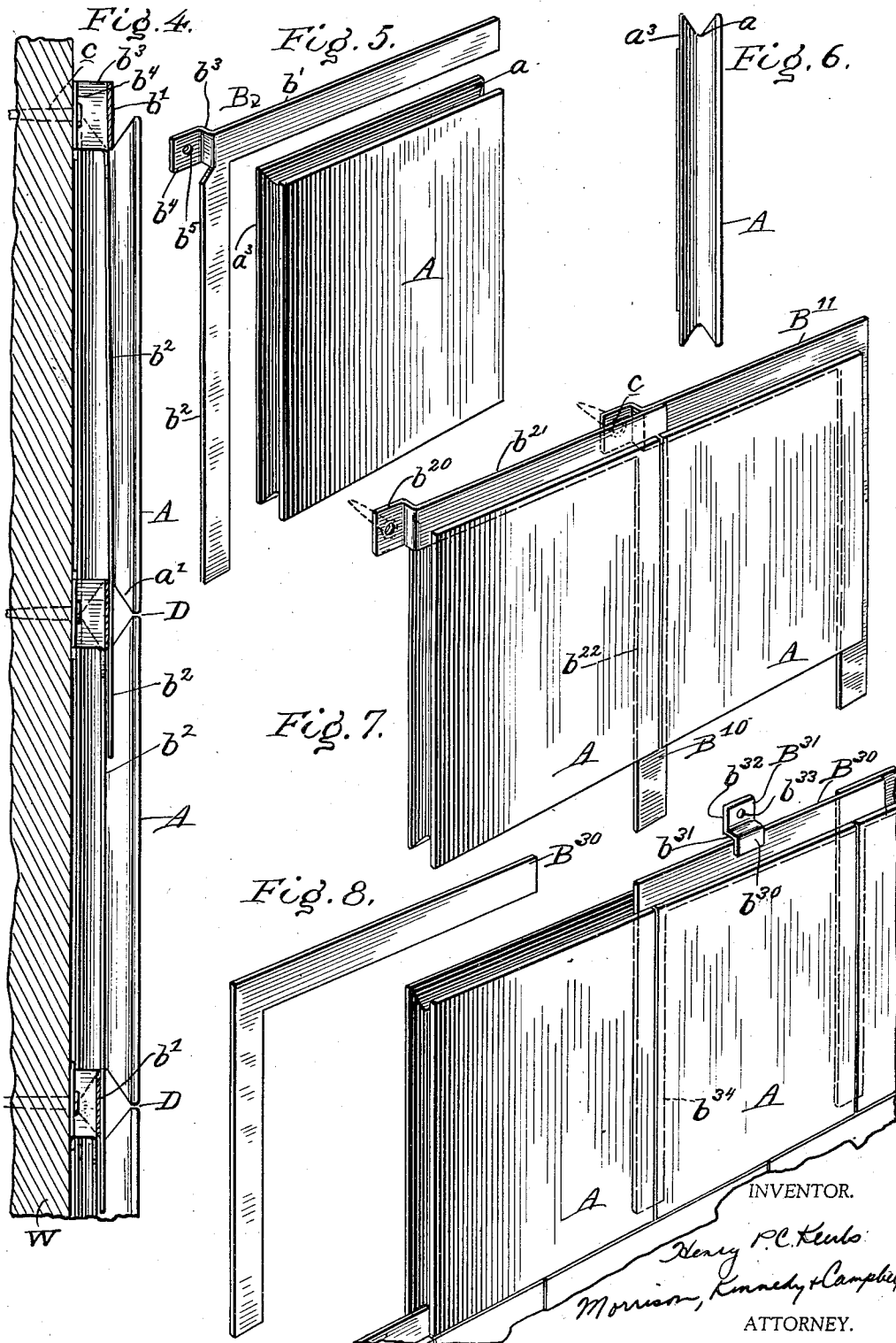
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INVENTOR.

Henry P. C. Keuls
Morrison, Kennedy & Campbell
ATTORNEY.

UNITED STATES PATENT OFFICE

1,991,558

TILE CONSTRUCTION

Henry P. C. Keuls, New York, N. Y., assignor, by
mesne assignments, to Sealed Joint Products
Company, Inc., a corporation of Delaware

Application March 28, 1933, Serial No. 663,140

7 Claims. (Cl. 72-19)

This invention relates to tile construction, and more particularly to a construction wherein the tiles are secured to a backing member by metallic fastening strips.

In carrying out the invention, tiles of a special form are laid against a backing member and are provided in their peripheral edges with V-shaped grooves which, in adjacent tiles are opposed to one another, the opposed grooves receiving fastening strips extending transversely across the joints between the adjacent tiles. The fastening strips are nailed or otherwise secured to the backing member, thus holding the tiles against displacement.

The fastening members are preferably cut from flat sheet steel and are formed with a pair of legs extending at right angles to each other. These legs extend for approximately half their width, into the grooves provided in two intersecting edges of a tile, the other half portion of the legs extending into the grooves in the edges of the tiles adjacent said intersecting edges.

With this construction, each tile is in effect, mounted in a steel frame, consisting in part of the two legs of one fastening member, engaging in the grooves of two intersecting edges of the tile, and in part of one leg of each of the fastening members associated with the tiles adjacent the other intersecting edges, and which likewise engage in the grooves thereof.

The means for nailing the fastening strips to the backing member may include a portion bent back from the strip and rebent into a plane parallel with the plane of the legs, the rebent portion being equipped with a hole through which a nail is driven into the backing member, or if desired a separate clip may be used to hold the fastening member in position.

The relation between the width of the fastening strips and the depth of the grooves may be made such that no opening or space is left between adjacent edges of the tiles, or, if desired, the tiles may be formed to provide a space between the edges which may be pointed up with mortar to give the effect of usual tile construction.

The legs of the fastening strips in some cases, are longer than the edges of the tiles, so as to extend beyond and overlap the fastening strip associated with the adjacent tile, thus insuring a stronger structure and a substantially moisture-proof joint at the corners of the tiles.

Referring to the drawings:

Fig. 1 is a view, in elevation, of a portion of a wall tiled in accordance with the invention,

showing the fastening and sealing strips in dotted lines;

Fig. 2 is a view, in elevation, of a portion of the wall illustrated in Fig. 1, showing the manner in which the tiles and fastening strips are assembled in position;

Fig. 3 is a view showing a plurality of assembled tiles broken away at the corners to show the arrangement of the fastening strips;

Fig. 4 is a partial section on line 4-4 of Fig. 1;

Fig. 5 is a perspective view of a tile, together with one form of fastening strip used therewith;

Fig. 6 is an end view of a tile;

Fig. 7 is a perspective view showing a different form of fastening strip used with the tiles; and

Fig. 8 is a perspective view showing still another form of fastening strip used with the tiles.

Referring to the drawings, the tiles A are preferably rectangular in shape and are provided at their peripheral edges with V-shaped grooves *a* to receive fastening strips B which serve to secure the tiles to a backing member W, as for instance, a wall or frame. The fastening strips, as mentioned before, are preferably cut from flat sheet metal, the one shown in Fig. 5 consisting of a pair of legs *b*¹, *b*² arranged at right angles to each other, and an offset bracket portion *b*³ formed at the corner of the strip where the legs *b*¹, *b*² meet. The bracket *b*³ is formed by bending a portion *b*⁴ of the strip at right angles thereto and rebending the end *b*⁴ of this portion into a plane parallel with the legs *b*¹, *b*². The rebent portion *b*⁴ is equipped with a hole *b*⁵ through which a nail is driven to hold the strip to the backing member, as will be described hereinafter.

The invention is best illustrated by describing the method of laying the tile. As shown in Figs. 1 and 2, the tiles are laid in courses, and, for the sake of clarity, let it be assumed that a number of tiles have been laid. Thus, a tile A¹ is fastened in position by a fastening strip B¹ with the lower half of the horizontal leg *b*¹⁰ thereof projecting into the top groove *a*¹ of the tile, and the inner half of the vertical leg *b*¹¹ thereof extending into the vertical groove *a*² at the left of the tile A¹. The fastening strip B¹ is held in position by a nail C passing through the hole *b*¹² in the rebent portion of the bracket element and into the backing member which may be a wall or other suitable framework.

The next tile A² is then placed in position with the groove in the lower edge thereof receiving the upper edge of the horizontal leg of a fastening strip B² associated with the tile in the course next below it, and with the groove in the right

edge thereof receiving the outer edge of the vertical leg b^{11} of the fastening strip B^1 of the tile adjacent on the right. The tile A^2 is now secured in position by means of a fastening member B^3 . As will be observed, the fastening member B^3 , as well as the others, are provided with legs, considerably longer than the edges of the tile with which it is used, and is placed in position by sliding the lower end of the vertical leg b^{13} into the grooves formed between the two adjacent tiles A^3 and A^4 of the course next below. The fastening strip B^3 is then pushed downwardly until the bottom edge of the horizontal leg b^{14} comes in contact with the base of the groove in the upper edge of its associated tile A^2 , and nailed in place.

The tile A^2 , completely mounted, is shown in Fig. 3. Herein, it will be noted, the steel fastening strips completely frame the tile A^2 , the groove in the right edge thereof receiving the projecting portion of the vertical leg b^{11} of the strip B^1 of the tile adjacent on the right, the groove in the lower edge thereof receiving the upper projecting portion of the fastening strip B^2 of the tile adjacent below, and the grooves in the left and upper edges thereof receiving the inner edges of the vertical leg and horizontal leg of its own fastening strip B^3 , respectively.

Due to the fact that the legs of the fastening strips extend beyond the edges of the tile and into the grooves of the adjacent tiles, each tile is in effect pinned at its four corners, although but a single nail is used for each tile. This results from the fact that the free ends of each fastening strip are held against forward displacement by the grooves of the tiles into which they extend; thus, as shown in Fig. 3, the free end of the horizontal leg of the strip B^3 is retained in position by the groove in the upper edge of the tile A^1 , which tile in turn is held by its strip B^1 , nailed at C. With this construction, each tile is retained along its entire peripheral edge.

Another form of fastening strip is shown in Fig. 7. In this embodiment the bracket portion b^{20} for connecting the strip B^{10} to the wall, is formed at the end of one of the leg members b^{21} . This bracket portion is formed by bending the end of one leg at right angles thereto, and rebending a portion b^{20} thereof into a plane parallel with the right angularly connected legs b^{21} , b^{22} . The same result is obtained as in the previous embodiment for the same form of tile is used, and the leg b^{22} , devoid of the fastening bracket, extends into the groove of the adjacent tile and likewise overlaps, a portion of the fastening member B^{11} , associated therewith. The nail C passing through the rebent portions in effect connects each corner of the tile to the wall as in the case previously described.

Fig. 8 shows still another embodiment of the invention, wherein the angular fastening strips B^{30} are formed without the integral rebent fastening portions. With this construction, the fastening members are joined to the wall by means of clips B^{31} which include a downwardly extending lip b^{30} engaging the outer face of the fastening strip, a horizontal rearwardly extending portion b^{31} , and a vertical rebent portion b^{32} equipped with a hole b^{33} adapted to receive a nail for securing the clip to the wall.

The invention, as previously described, is not necessarily limited to tiles laid in vertical as well as horizontal courses for, as shown in Fig. 8, it may readily be adapted to a condition where the tiles are staggered, simply by shortening the vertical leg of the fastening member, so that it

terminates at the base of the groove in the upper edge of a tile in the next adjacent lower course.

The tiles (see Fig. 6) have their rear faces recessed, as at a^3 , in the region adjacent the peripheral edges, the purpose of this being to permit the tiles to clear the rebent portions of the bracket elements and clips while still permitting the major portions of the tile to rest firmly against the backing member.

If it is desired to give the effect of a tile wall laid with mortar, the widths of the legs of the fastening strips and the tile grooves may be proportioned so as to leave a small space D between the front edges of adjacent tiles, and these spaces may be pointed up with mortar to give the effect of usual tile construction.

The invention thus provides a tile construction which may be assembled by unskilled labor, avoids the necessity of using mortar as a means of retaining the tiles in position, and eliminates any possibility of the tiles becoming loose and falling out of place. The fastening strips extending to the base of the grooves in adjacent blocks, as they do, further provide a seal against moisture, and consequently furnishes a construction suitable for use in swimming pools, shower stalls, and similar places.

The invention has been described in connection with the tiling of a wall, or other vertical backing member, but it will be understood that the position of the backing member is not a limitation upon the invention, as the backing member may be horizontal or inclined as desired. Throughout the specification, the word "tile" has been used to indicate the wall facing elements, but the invention is equally applicable to brick and other similar building materials, and in the claims the word "tile" is to be interpreted as covering such material. Also, in the instance of the fastening strips, any suitable material, other than steel, may likewise be used. The invention is susceptible of many modifications within its spirit and is to be limited, therefore, only by the prior art and the scope of the appended claims.

Having thus described my invention, what I claim is:

1. In combination, rectangular tile elements adapted to be laid edge to edge upon a backing member, grooves provided in the opposed edges of adjacent tiles, fastening strips each having a pair of legs, one leg engaging in the groove of one edge of a tile and the other leg engaging in the groove of an intersecting edge thereof, each of said legs engaging also in a groove presented in the edge of an adjacent tile, and means for securing the fastening strips to the backing member.

2. In combination, tile elements adapted to be laid edge to edge upon a backing member, and presenting grooves in their peripheral edges, and a fastening strip associated with each tile element and extending into a groove thereof, said fastening strip comprising a pair of legs formed at right angles to each other, one of said legs being greater in length than the edge of its associated tile element, and having its end extending beyond the edge of the tile in service, said end projecting into the groove of an adjacent tile, whereby it is held against displacement in a direction perpendicular to the tile face, and means for securing the fastening strip to the backing member.

3. A metallic fastening strip for securing tiles to a wall comprising, a pair of legs arranged at right angles to each other, and having a portion thereof bent at right angles to the plane of the

legs and the end of said portion rebent into a plane parallel to the plane of the legs said portion providing means for securing the fastening strips in position.

5 4. In tile construction, the combination of tile units arranged edge to edge in courses, and each provided with a continuous groove extending around the periphery thereof, the grooves in adjacent tile units being in alinement, a backing 10 structure, and means for securing the tile units thereto, said means including angular fastening strips engaging in the grooves in two intersecting edges of a tile and in the grooves of two adjacent tiles, the strips in service being substantially hidden from view.

15 5. In tile construction, the combination of tile units arranged edge to edge in courses and each provided with a continuous groove extending around the periphery thereof, the grooves in adjacent tile units being in alinement, a backing 20 structure, and means for securing the tile units thereto, said means including members having flat portions extending into the grooves around the entire edge of a tile and into opposed 25 grooves in adjacent tiles, said members in service being substantially hidden from view.

6. In tile construction, the combination of tile units arranged edge to edge in courses and each provided with a continuous groove extending around the periphery thereof, the grooves in adjacent tile units being in alinement, a backing 5 structure, and means for securing the tile units thereto, said means including angular strips each having a pair of flat legs engaging in the groove of one tile unit and into the grooves of two adjacent tile units, the angular strips in service being 10 substantially hidden from view.

7. In tile construction, the combination of tile units arranged edge to edge in courses, and each provided with a continuous substantially V-shaped groove extending around the periphery 15 thereof, the grooves in adjacent tile units being in alinement, a backing structure, and means for securing the tile units thereto, including members having thin metal strip portions engaging in the grooves of adjacent tiles, whereby the tiles are 20 centered and held in position, and the metal strip portions in service being substantially hidden from view.

HENRY P. C. KEULS. 25