

April 19, 1938.

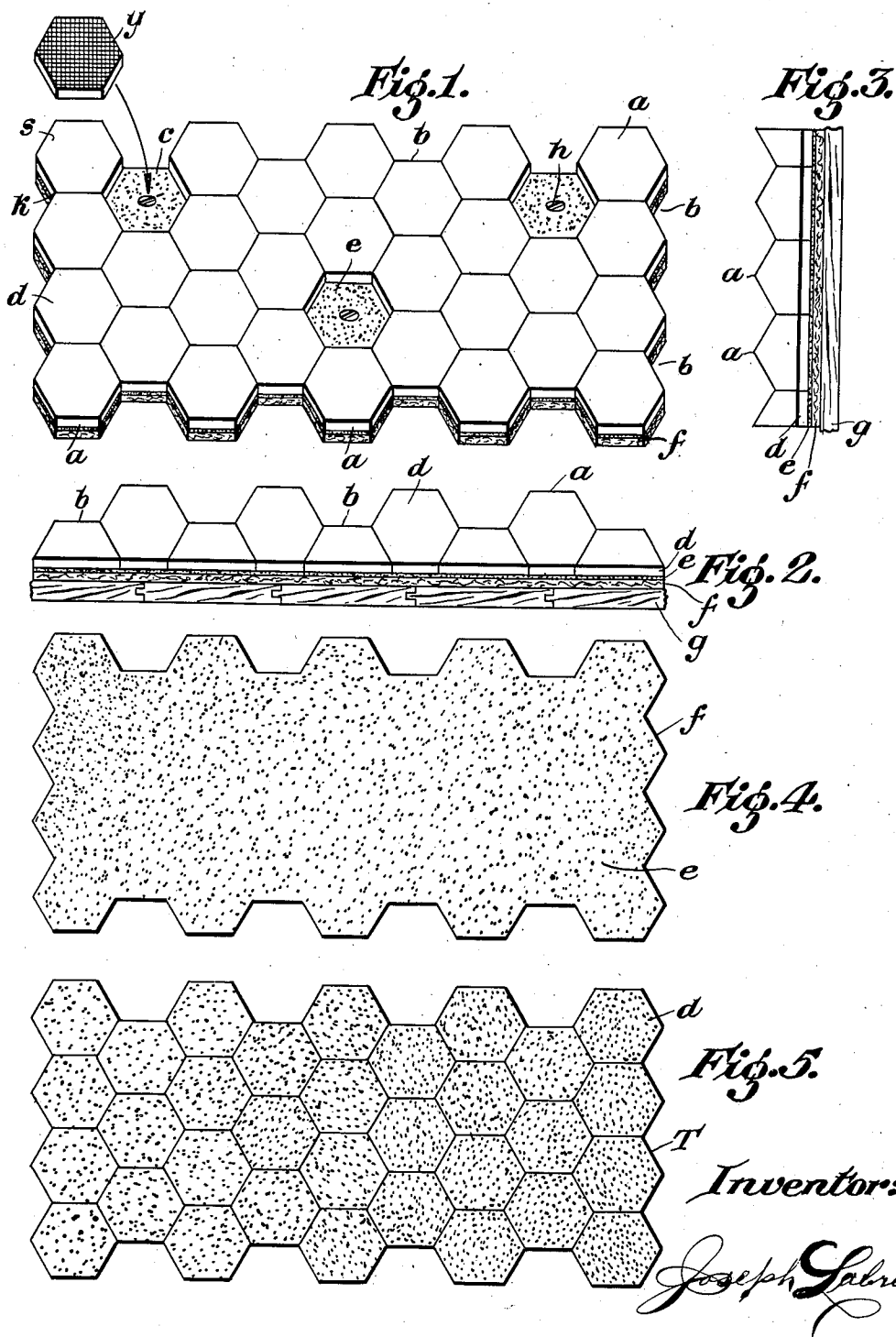
J. LABRA

2,114,474

SEMIRESILIENT CERAMIC TILE FLOORING SECTION

Filed Nov. 14, 1936

2 Sheets-Sheet 1



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SEMIRESILIENT CERAMIC TILE FLOORING SECTION

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2 Sheets-Sheet 2

Fig. 6.

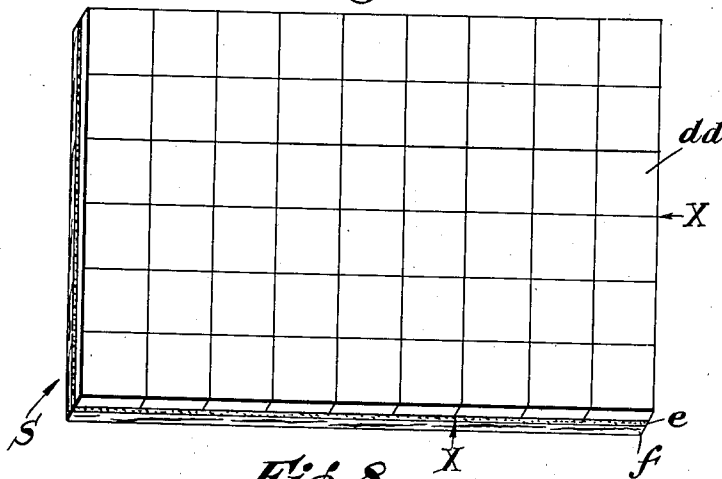


Fig. 7.

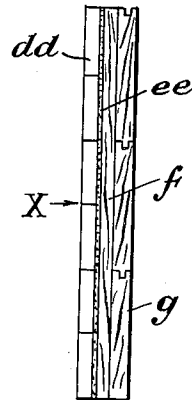


Fig. 8.

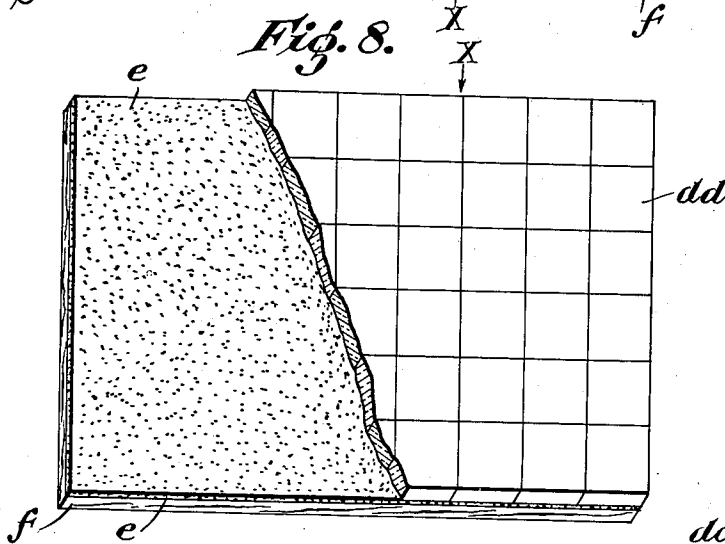


Fig. 8a.

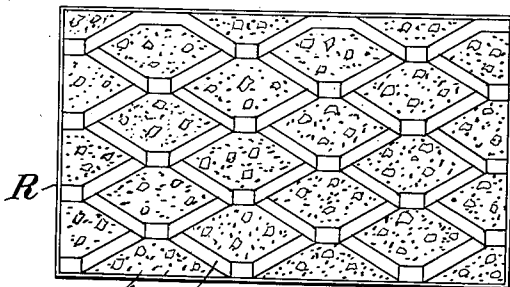
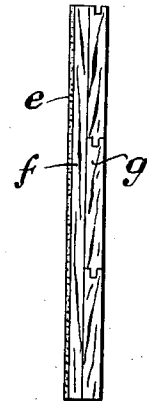


Fig. 9.

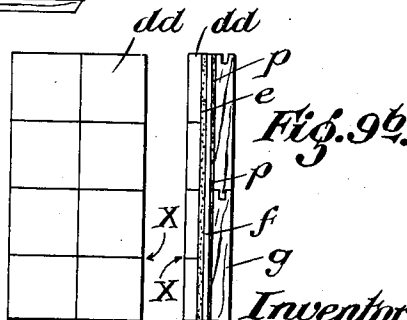


Fig. 9b.

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UNITED STATES PATENT OFFICE

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SEMIRESILIENT CERAMIC TILE FLOORING
SECTION

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3 Claims. (Cl. 72-18)

This invention relates to ceramic mosaic tile floor coverings, method of applying same tiles to floors, on situs, and also to movable sections which are then affixed to floors in a manner which will make an easy removal of the installations and may be transported and reinstalled if so desired, and has for one of its objects the provision of a simple inexpensive yet highly efficient method of preparing and applying such tiles to a suitable backing on what may be movable sections built right on situs or pre-manufactured sections which are then laid to floors in a manner similar to oilcloth floor coverings, etc.

Another object of the invention is the production of a semi-resilient ceramic mosaic floor which will ease the walking on and that can be used or placed over any other type of floor, and which will cause no material inconvenience in raising and transforming into a real wearing tile any ordinary built floor.

The invention refers specifically to both, manner by which a plurality of pre-manufactured small resilient mosaic floor sections are built and set up, and the manner by which a resilient floor is built on situs, which can also be removed at will, and so re-used in any other convenient place. The pre-manufactured sectional floor covering in accordance with my invention consists of a hard, tough base made of waterproof type materials, such as vulcanized fibre board, plywood, sheet metal, wire mesh metal lath and the like materials, which are rigid enough to resist the daily wearing of a floor and that is water resisting and which base is fabricated to the exact shape of the ordinary mosaic tile as it is mounted and sold on gummed paper strips, by the tile manufacturers.

This base is prepared to correspond in shape and size to such paper gummed tile and which may be made to receive one, two, or more gummed ceramic mosaic strips increasing the size of the base accordingly.

The backing of the fabricated base is given a coating of a rubber latex and Portland cement, or other suitable adhesives and the strip or strips of paper mounted tiles, is subsequently placed on to the plastic coated base, following the shape and arrangement of the outside rows of the tiles of the two adjacent sections which will occupy the same relation to each other as do the rows of tiles on each separate part or section, whereby the lines of demarcation between said sections will be invisible.

The said tile pieces are being applied flush to the outer line of the base sheet, and all the mar-

ginal outer lines of both tile and base are completely flush with each other, so that the outer line of the base sheet is joined to the continuation base, and the outer line of the tile is also flush with the outer line of the continuation of tiles. Neither the base sheet nor the tile is being provided with any overlapping engagement for connecting with each other. It will be noticed that in this method of mosaic tile sections overlapping and projecting parts would be most objectionable when assembling the sections in straight and parallel lines.

Inserting and recess points are provided on the base for tiles of the hexagon type where the base sheet is then fabricated to the same hexagonal shape and the outer lines of both base and tile are pasted perfectly flush with each other so that the sections may then become interlocked with other adjacent sections, thus no sectional joint will be visible.

After the tile section is dry the gummed paper on its surface is moistened and removed from the tile, and a grouting coat of cement is spread over the surface of the tiles, forcing same through all the joint crevices.

The same movable sections may be constructed on situs as well as pre-manufactured such as the case may require. In such case and when using mesh wire or other metal lath for base a sheet of felt paper or any other building paper or similar object must be placed on top of the original floor, that is, right under the metal lath or the like so as to prevent the cementing materials which penetrate through the empty spaces of the metal lath or wire mesh from a possible contact and adhesion with the main floor, making a perfect separation between the tile base sheet, and the main floor thus making the new floor semi-resilient with the added asset of its lightness and capable of being removed and re-used if so desired.

For building on to situs sections which might require their removal at any desirable time, I prefer to use a wire mesh with a small diamond design, and a small metal ream welded continuously around the four corners of the metal lath for the portion of its depth, forming unbroken edges to meet the adjoining sections, and which provides a distinct advantage of steel strengthened tile slab.

It is preferable to use a smaller size than the ordinary manufactured metal lath. I found that the most convenient size for handling in connection with this new method of floor covering is an approximation of 24" x 48". This size affords

a convenient removal of the slabs when necessary.

The following constitutes the foundation for the semi-resilient tile flooring.

5 A layer of building paper felt or the like material, is placed up on the main floor that is to be covered which must prevent the cementing materials from contacting with the main floor. The
10 metal lath which is to form the base sheet for the tile, is subsequently placed on top of the felt paper, which lays over the main floor, and at this point a grouting, consisting of a mixture of sand, Portland cement, dissolved in an adhesive rubber latex solution or any other suitable grouting
15 cement composition is spread over the surface of the metal lath, permitting it to pass through all its spaces and crevices, and allowed to harden before the ceramic mosaic tiles are laid. Once dried a second coat of a tile adhesive cement such
20 as Portland cement and rubber latex solution or other suitable cements, is spread over the metal lath base sheet, and is ready to receive the tile at once.

In ceramic mosaic tiles, there are small tiles of
25 various patterns and adapted to laying in special designs or borders, and for this purpose are mounted on sheets of paper of a size convenient to handle.

In setting the ceramic mosaic tiles to which the
30 described specification refers, the sheets should be first examined to see that the design is right. The sheets are then laid carefully on the moistened cementing tile adhesive which is spread on a thickness of about $\frac{1}{8}$ of an inch.

35 The sheets are then laid on the cementing adhesive with paper side up; after the space is covered the tiles are pressed into bed, being beaten down with a block and a hammer until the cement in the joints is visible through the paper without however breaking it. The joints between
40 the sheets are spaced the same as those upon the sheets, conforming with the uniform effect of the floor. After being laid the paper is moistened, thoroughly soaked with water and removed.

45 A grouting of cement may at this point be forced through the empty tile spaces.

The inventive idea involved is capable of receiving a variety of mechanical expressions, one of which for the purpose of illustration is shown
50 on the accompanying drawings in which:

Fig. 1 is a top plan view of a section made of ceramic hexagonal tiles in accordance with my invention.

55 Fig. 2 is one end view of the section, "D" is the tile, "E" the adhesive, "F" the base, "G" the foundation floor.

Fig. 3 is another end view of the section.

Fig. 4 is a base, the face view of the foundation sheet.

60 Fig. 5 is a top plan view partly broken away showing one manner in which ceramic mosaic tiles are mounted and sold ready for use.

Fig. 6 is another top plan view of a square edged ceramic flooring tile.

65 Fig. 7 is the side view.

Fig. 8 is another plan view of the structure.

Fig. 8a is a side view of Fig. 8.

70 Fig. 9 is a view of a modified form of my invention where in the ceramic floor tile section is prepared in situ.

Fig. 9a is the top plan view thereof.

Fig. 9b is the side view showing the foundation construction of a structure as built in situ.

75 Referring now to the drawings in detail and more particularly to Figures 1 to 5.

Fig. 1, "S" indicates a section of ceramic mosaic tile, comprising tiles "D" which are pasted or cemented to a suitable backing "F" by means of a coating of adhesive "E". The tiles "D" may be individually cemented to the backing "F", or they
5 may be pasted or attached as hereafter described.

Some ceramic mosaic tile manufacturers market their products mounted or pasted on gummed paper strips "T" to attach tiles so that it may be mounted on a backing "F". I coat a strip "T",
10 of such tiles with the adhesive coating "E", which also permeates the crevices or spaces "K" between the individual tiles. The strip "T" prior to receiving the adhesive coating "E" is placed upon a support or tray of approximately the same size
15 as the strip "T". Either prior or subsequently to the coating of adhesive and when thus prepared or treated the strip of tiles "T" is placed upon the backing "F" with the coated surfaces of the backing. After the tile section is dry, the
20 paper "T" on the strip is torn off or otherwise removed from the tile surface.

Before applying the adhesive coating to the tiles, some of them at pre-determined locations are removed so as to provide vacant spaces "C".
25

The object of removing the aforementioned tiles is to provide areas for drilling the backing member "F" for the reception of the screws "h" for securing the tile sections to the floor, specially colored tiles "y" are secured in the openings
30 or spaces "C".

When it is desired to remove the tile section "F", the tiles "y" are withdrawn and the screws "h" are unscrewed.

Where the floor support is of such nature that
35 the screws are unpractical, the tile sections are pasted or cemented to the floor with a coating of adhesive "ee" which is somewhat weaker or less tenacious than the coating "e" so that the tile sections may be pried loose and pulled off. For
40 such hexagonal ceramic mosaic tile floor covering I prefer to use a fabricated base sheet such as the one shown on Fig. 4 with interlocking inserts, "A" and recesses "b". The outer lines of the base sheet "A" and "b" are cemented flush
45 with the outer marginal lines of the tile pieces "d" so that the base sheet and tiles will be contacting with the adjacent sections.

Figures 6 to 9b show a different type of floor tiles with the same system of construction as
50 heretofore described consisting of a rectangular base sheet of hard and yet flexible character such as sheet metal or plywood "F". Each of the said sections is constructed to receive a multiplicity of ceramic floor tiles with rectangular edges "DD"
55 said tiles are applied and cemented by "E" flush to the outer edges of the base sheet "F" so as to permit the different sections being joined together at their marginal lines "X" leaving intermediate spaces between the adjacent sections to be filled with the cementing plastic and which spaces will correspond with those of the separating surfaced tile pieces "X". When the sections
60 "S" are applied to the foundation floor "F" a cementing plastic "E" is spread all along the four
65 bottom side edges of the base sheet "S" which will contact with the foundation floor "G" thus securing the outer edges of the section to the foundation floor while the inner part remains semi-resilient. The sections are then so arranged
70 on the foundation floor that all the tile joints will run parallel with the joints of other adjacent sections.

75 Figs. 9, 9a, 9b, show a base sheet which may be built in situ, and is adaptable to be removed

and reinstalled; said base sheet is very light in weight and flexible. It consists of wire mesh "square" with a rim "R" welded all around the four corners which is filled with a mixture of Portland cement, sand and an aqueous solution of rubber latex or other suitable matters.

In accordance with my invention I place a layer of paper, sawdust or the like "P" over the floor "G" that is to be tiled. I place a multiplicity of metal square sections as shown on Fig. 9 upon the paper "P". The mixture now simulating ordinary cement mortar is spread over the wire mesh "J" and subsequently I spread a coat of an adhesive cementing matter "E" over the cement filled wire mesh "T", then I assemble the ceramic tiles "DD" upon the surface of the metal and cement made base sheet in parallel lines with other joints "X" of the adjoining sections.

Fig. 9b shows side view of the structure. "G" is the foundation floor. "P" is the layer of paper or similar matter used as the intermediary preventing the base sheet "F" from a possible adhesion to the foundation "G". "E" is the adhesive cementing matter. "DD" shows the floor ceramic tiles and "X" the parallel joints. It is understood that the tiles may be laid in any other desired design. While this floor tiling system is practical for use on any type of floor surface or floor construction, it is especially adaptable to cover floor structures requiring veritable ceramic mosaic tiles and is particularly suitable floor coverings on structures which were not actually pre-arranged to receive the ordinary heavy loads usually necessary in tile setting. It is sanitary and not objectionable to building codes for overloading.

Having described my invention, what I claim as new and desire to secure by Letters-Patent is:

1. A semi-resilient ceramic floor tile section

which may be built on situs or otherwise consisting of matters such as felt or building paper laid over the main floor, thus preventing the cementing matters from contacting with the main floor; a multiplicity of metal mesh units, provided with metal rims along the edges of the four sides; a cementing mixture of sand, Portland cement and rubber latex or other suitable adhesives, to form a base slab; a plurality of floor tiles and a suitable tile adhesive securing the tiles to the backing member which floor is thus resilient and adaptable to removal.

2. A semi-resilient ceramic floor tile section, built on situs consisting of a multiplicity of metal base units serving as tile backing members, a rubber latex tile adhesive compound, securing the backing member to the tiles, a plurality of floor tiles which outer edges are cemented on straight line flush with the outer line of the metal base forming individual movable slabs.

3. A semi-resilient ceramic mosaic floor tile section consisting of a plastic cementing adhesive, a multiplicity of small tile pieces and a rigid base sheet with its outer marginal lines fabricated to receive the arrangement of a plurality of small hexagonal tile pieces in the manner that the outer marginal lines of the hexagonal tile pieces, when cemented together will coact and align to conform in the arrangement with the dentoid marginal lines of the said backing member "base sheet", so that when the section is applied to the foundation floor, the edges of the base sheet will contact with other similar sections and thus they may be screwed, pasted or otherwise secured to the foundation floor, being all substantially as shown and described.

JOSEPH IABRA.