Feb. 9, 1926.

1,572,070

G. KOLENSKI

SURFACE COVERING

Filed April 18, 1924

Fig. 1.

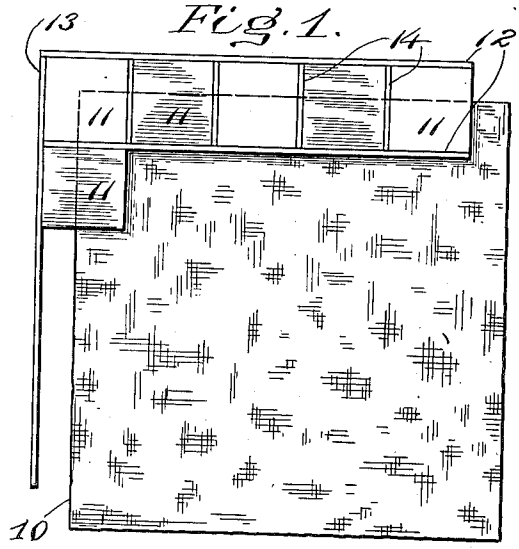


Fig. 2.

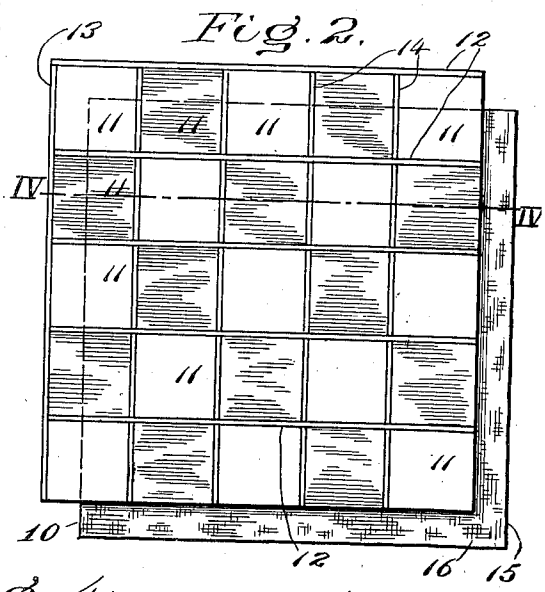


Fig. 4.



Fig. 5.

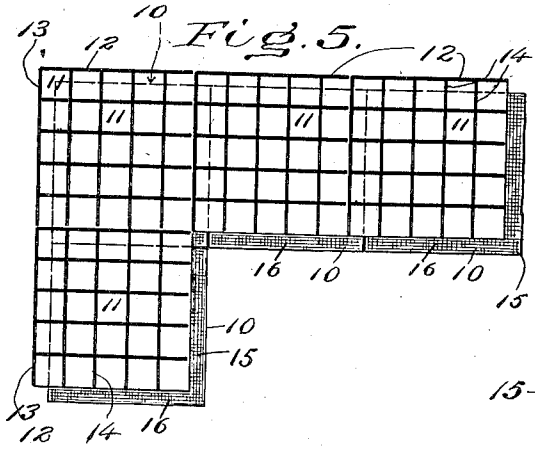


Fig. 3.

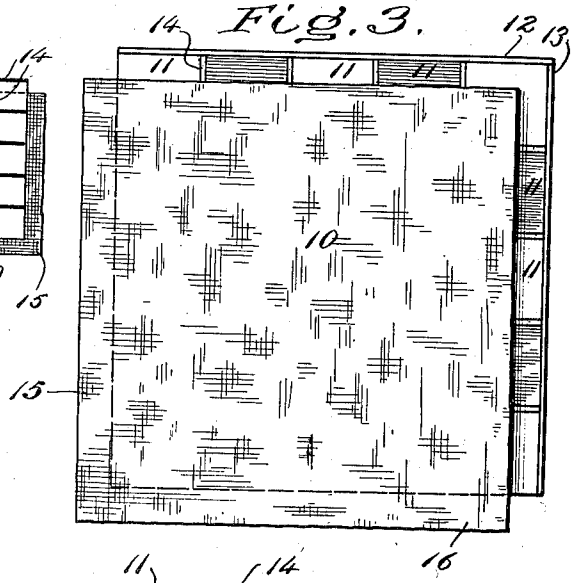
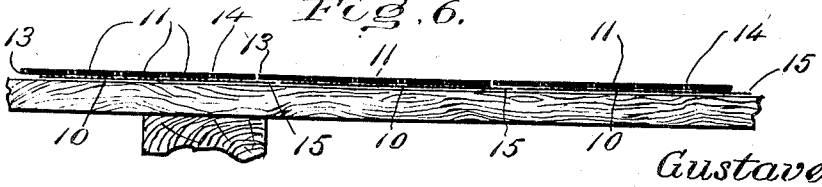


Fig. 6.



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ATTORNEYS

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UNITED STATES PATENT OFFICE.

GUSTAVE KOLENSKI, OF JAMAICA, NEW YORK.

SURFACE COVERING.

Application filed April 18, 1924. Serial No. 707,503.

To all whom it may concern:

Be it known that I, GUSTAVE KOLENSKI, a citizen of the United States of America, and a resident of Jamaica, county of Queens, and State of New York, have invented certain new and useful Improvements in Surface Coverings, of which the following is a specification.

This invention relates to composite tile-units as such and also to a surface covering composed of assembled tile-units, the invention being more particularly directed to resilient surface coverings like linoleum, cork and so forth adapted for covering floors, walls, etc., having flat surfaces. Heretofore a mosaic floor covering of linoleum or other resilient material has been completely laid in situ and the services of expert tile-layers are required, whereas under the present invention the resilient tile-units may be laid upon the floor by unskilled labor at great saving of expense and without requiring the use of heavy rollers. Under the present invention the tile-units are made up in the shop by experts and each unit is placed under a press for a sufficient length of time after the parts thereof have been cemented together.

An object of the present invention is to provide a composite tile-unit, comprising a rectangular, thin, flexible and non-frangible foundation-sheet, and a rectangular layer of tiles of resilient yielding material having continuous, flat, lower surfaces which are cemented to the said foundation-sheet, and the tiles being cemented together at their edges, a portion of the said sheet extending beyond each of two adjacent edges of the said layer of tiles to form lap-joints with adjoining units at said two edges of the tile layer, and the so-constructed tile-unit being flexible throughout and thus conformable to any unevenness of a surface to which the said foundation-sheet is to be cemented. Other objects of the invention will appear hereinafter.

The invention consists of certain features of construction and combinations of parts to be hereinafter described and then claimed with reference to the accompanying drawings illustrating one embodiment of the invention and in which—

Figure 1 is a plan of an incomplete tile-unit showing how a unit may be made up in the shop.

Fig. 2 is a plan of the complete unit.

Fig. 3 is an underside plan of the tile-unit shown in Fig. 2.

Fig. 4 is an enlarged transverse section on the line IV—IV, Fig. 2.

Fig. 5 is a plan of a number of tile-units showing how they are matched when laid upon a flat surface; and

Fig. 6 is a view of a floor, showing diagrammatically a transverse section of Fig. 5.

Each tile-unit consists of a flexible foundation sheet 10 preferably composed of some fabric such as cotton, canvas, paper or wire gauze. By referring to Fig. 1 it will be seen how the tile layer may be built up from the tiles 11. This is preferably done by an expert in the shop and he may for instance first set up the edge strips 12, 13 of the unit, then construct a row of tiles 11 having tile separating strips 14 of short length, and he may then position another strip 12 parallel with the first one 12, the said tiles and the strips 12, 13, 14 being composed of resilient material such as linoleum, cork or the like.

As the first row is being built up the expert cements the edges of the tiles and the strips together and also cements them to the foundation sheet 10 and step by step builds up rows of tiles and strips, until ultimately a complete resilient, mosaic tile-unit is formed such as shown in Fig. 2 and in reverse in Fig. 3. As this work may be done with the facilities of the shop the expert can carefully form the tile-unit according to the desired mosaic design, and each tile-unit when completed will have all the parts composing the tile layer in one plane, as illustrated in Fig. 4. The tiles of each unit are continuously flat at their lower surfaces and no other means of connection between them and each foundation-sheet is required than the cement such as usually employed in securing linoleum to floors.

Under the present invention it is preferred that for each tile-unit the area of the flexible foundation sheet 10 and the tile layer thereon shall be the same, but the invention is not restricted to this. However, this is preferably so in the case at least of intermediate tile-units which are laid upon a floor to constitute a resilient covering.

When the foundation sheet 10 and its tile layer are of the same area it is preferable to so cement them together that they will be relatively offset diagonally, with the result that two adjoining edges of the sheet 10 will provide flexible extensions 15, 16, which form an angular attaching portion beyond the layer of tiles. When the unit is so constructed there will be provided a bare, correspondingly shaped, angular surface at the underside of the layer of tiles and around the two remaining edges of the foundation sheet.

The method of laying a resilient covering on a floor or other flat surface when the covering is composed of units such as described will be sufficiently clear from Figs. 5 and 6. An ordinary workman may do the necessary matching of the units and the cementing thereof to a floor for example. The preferable way is for him to first take a tile-unit and lay it at one corner of the floor, cementing it thereto so that there will be an edge strip 12 at one edge of the floor and the other edge strip 13 at the adjacent edge of the floor. This will provide an angular portion 15, 16 towards the middle of the floor. The workman then takes a second tile-unit similar to that shown in Fig. 2 and if he lays it to the right of the unit laid in the corner, the bare under portion of the tiles at the left of the second unit will be laid over the attaching portion 15 at the right of the corner tile-unit as shown in Figs. 5 and 6. Of course the second tile-unit is carefully cemented to the floor and to the attaching portion 15. In this way the workman builds up the first row of tile-units, except that when he gets over to the righthand corner of the floor to be covered a tile-unit such as shown in Fig. 2 may be cut to fit in that corner, or an appropriately formed tile-unit may be furnished to him from the shop, that is to say, one in which there will be a strip at the edge corresponding to the edge strip 12 and a strip such as 13 at the righthand edge of the unit instead of at the lefthand edge of the unit shown in Fig. 2, and there will be no extension 15 of the foundation sheet.

Having now completed and cemented to the floor the first row of tile-units, the workman again starts at the lefthand side of the floor with a unit such as shown in Fig. 2 and cements this to the floor so that the bare portion underneath the tiles of the first row in that unit will be cemented over the attaching portion 16 of the tile unit which was laid first at the left hand corner of the floor. The procedure to be then followed by the workman will be perfectly clear, and when the entire surface of the floor has been covered and the units cemented together and to the floor, there will be a single layer of foundation sheets. The foundation sheets will not overlap so as to provide objectionable double thicknesses at points where the units are matched together and joined, so that the entire exposed surface of the covering will lie perfectly flat, and the tile layers of adjoining units will break joint with the foundation sheets; that is the portions 15, 16 of said sheets will extend under the edges of the tile layers of adjoining units and will overlap the joints between the tile layers of the units.

It is obvious that each unit which is to go at the corner of a floor may be provided with a fundation sheet which covers the entire under surface of the tile layer and which will provide an angular attaching portion projecting beyond the full lengths of two adjoining edges of the tile layer, and that the remaining tile-units of the outside rows may be appropriately modified in obvious manner. The inside tile-units would be composed similar to the construction shown in Fig. 2, so that the entire under surfaces of the tiles and strips would be covered by foundation sheets and no parts thereof be left bare. If this were not done it might be found objectionable to leave narrow portions at the surrounding edges of the covering bare of fabric and having corresponding portions of the tiles cemented directly to the floor, although it is not believed that this would be objectionable.

Some of the advantages of this invention in addition to those already mentioned are the following:

When the tile-units are made up in the shop the cement will have time to dry before the units are laid on a floor, and when they are laid on a floor no cement can ooze out of the joints of the units. It is a very simple matter for a workman to match and cement tile-units without danger of any cement oozing between the units themselves, whereas no matter how carfully a mosaic covering of linoleum is composed and also laid, on the job, cement will ooze from all joints. Resilient tile-units constructed as described and laid upon a floor will not break at the joints, through the expansion and contraction of the floor on which they are laid and cemented. A water-tight floor covering may be provided inasmuch as the making of better joints at the edges and at the bottom of the units is permitted. It is obvious that the tile-units may be made up into any desired design, as the one selected for illustrating the present invention is only one of a multitude of many other arbitrary designs which are permissible.

In the preferred embodiment of the invention the foundation sheet 10 has a considerable degree of flexibility, being much thinner than the tile of resilient material forming the wear surface thereon, and being

non-frangible when bent in sharp curves, so that each tile-unit will have thin flexible extensions or lips such as 15, 16, which by reason thereof may be readily cemented to the bare under portions of the adjoining resilient tiles, while at the same time there will be no difficulty in cementing the under side of each foundation sheet to a floor which is to be surfaced. It will be possible, therefore, for unskilled workmen to so surface a floor that the tile-units will be intimately bound throughout to the floor and the tile-units will be intimately bound to each other at their adjoining edge portions, whereby the floor and the floor covering, together with the tile-units constituting the covering becomes substantially an integral construction. Because of these features, and because the tiles are resilient and yielding, the floor covering may also be intimately secured to an uneven floor without danger of fracturing the covering as a whole, and, especially, no danger of fracturing the wear surface of the covering, so that the covering will in all cases have an unbroken wear surface.

The foregoing detailed description has been given for clearness of understanding and no undue limitation should be deduced therefrom, but the appended claims should be construed as broadly as permissible in view of the prior art.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A composite tile-unit, comprising a rectangular, thin, flexible and non-frangible foundation-sheet, and a rectangular layer of tiles of resilient yielding material having continuous, flat, lower surfaces which are cemented to the said foundation-sheet, and the tiles being cemented together at their edges, a portion of the said sheet extending beyond each of two adjacent edges of the said layer of tiles to form lap-joints with adjoining units at said two edges of the tile layer, and the so-constructed tile-unit being flexible throughout and thus conformable to any unevenness of a surface to which the said foundation-sheet is to be cemented.

2. A floor covering, comprising composite tile-units, each of which units includes a rectangular, thin, flexible and non-frangible foundation-sheet, and a rectangular layer of tiles of resilient yielding material having continuous, flat, lower surfaces which are cemented to the said foundation-sheet, and the tiles being cemented together at their edges, a portion of the said sheet extending beyond each of two adjacent edges of the said layer of tiles to form lap-joints with adjoining units at said two edges of the tile layer, and the so-constructed tile-unit being flexible throughout and thus conformable to any unevenness of a surface to which the said foundation-sheet is to be cemented, each tile-layer having a bare surface corresponding to the extending flexible edge-portion of the foundation-sheet, the bare surface of each tile-unit being cemented to the corresponding flexible edge-portions of its neighbors, the joints between the tile-layers of the units being cemented, and the foundation-sheets being cemented to the floor.

Signed at New York, N. Y., on this 17th day of April, 1924.

GUSTAVE KOLENSKI.