Oct. 13, 1959 W. GOLD 2,908,049

COMPOSITE FLOORS, AND METHOD OF MAKING SUCH FLOORS

Filed Nov. 9, 1956

Fig. 1.

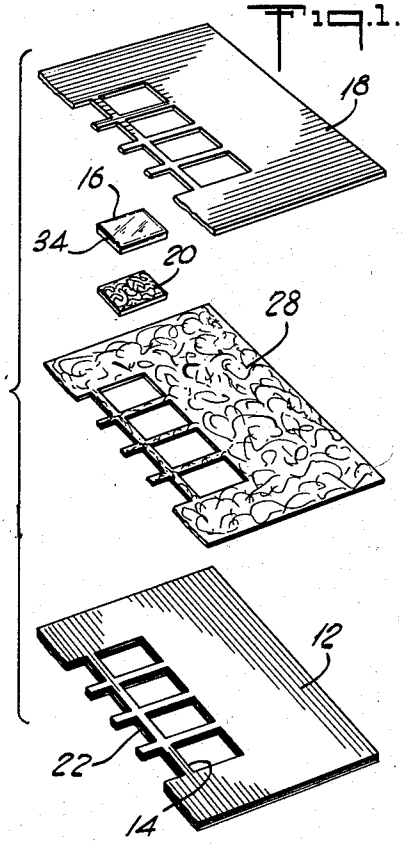


Fig. 2.

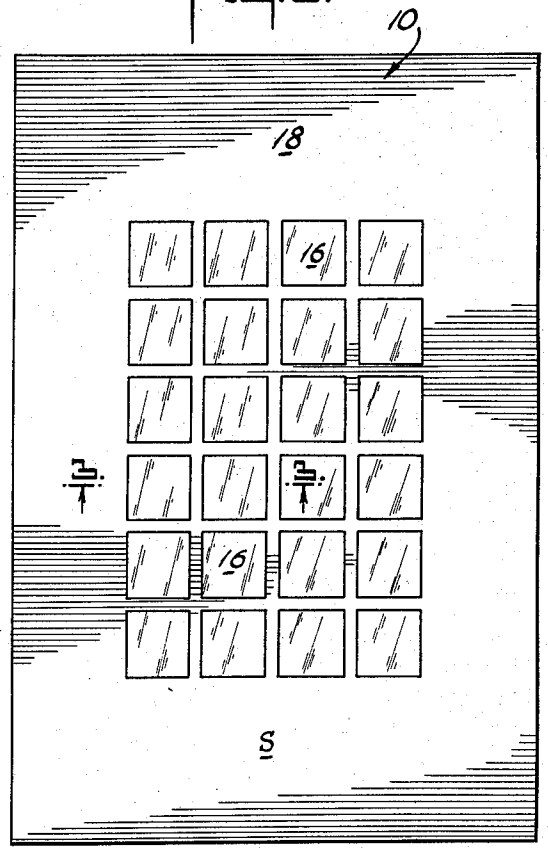
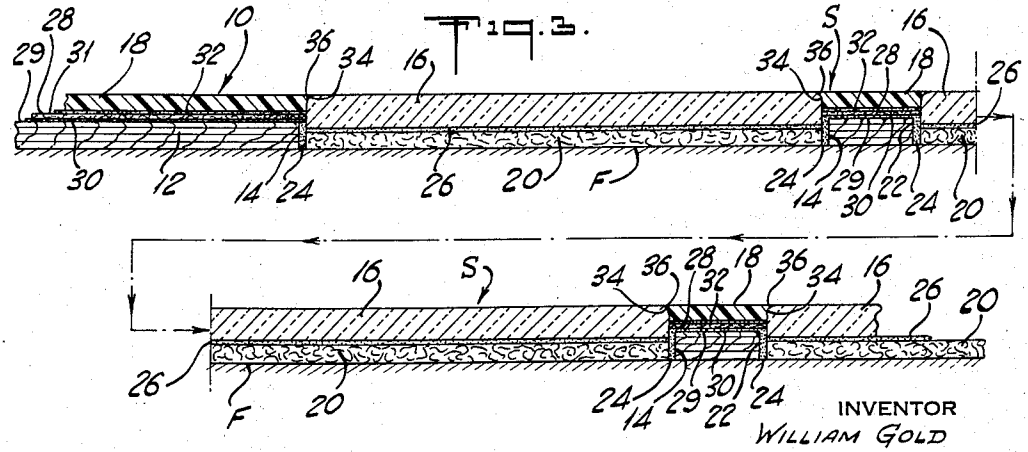


Fig. 3.



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United States Patent Office

2,908,049

Patented Oct. 13, 1959

2,908,049

COMPOSITE FLOORS AND METHOD OF MAKING SUCH FLOORS

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Application November 9, 1956, Serial No. 621,351

13 Claims. (Cl. 20—7)

This invention relates generally to composite floors, and method of making such floors. More particularly, the invention relates to composite floors in which ceramic tiles are bordered by suitable other flooring, such as strips or sheets of vinyl, or the like.

An object of the invention is the provision of a decorative floor construction in which ceramic tiles are positioned as a decorative element, and are bordered by or interfitted with sheet or strip material, such as vinyl. In such case, the strip or sheet material lends itself to an infinite variety of designs and configurations, and is durable, water proof and highly resistant to abrasion and surface damage.

Another object of the invention is the provision of a decorative floor construction of the indicated character having a base grid which defines one or more areas to be punched out, cut out, or otherwise delineated, so as to be adapted for the reception of ceramic tiles of complementary configuration in which case the base grid defines as undersupport for the sheet or strip material, such as vinyl, for interfitting with the ceramic tiles.

Another object of the invention is the provision of an improved method of laying floors of the indicated character which may be performed by even relatively unskilled labor, so as to attain results of a professional character, wherein the method lends itself to the achievement of almost an infinite variety of esthetic effects.

Other objects of the invention will be set forth hereinafter, or will be apparent from the description and the drawings, in which is illustrated an embodiment exemplifying the invention.

The invention, however, is not intended to be restricted to any particular construction, or any particular arrangement of parts, or any particular application of any such construction or arrangement of parts, or any specific method of operation or use, or any of the various details thereof, even where specifically shown and described herein, as the same may be modified in various particulars, or may be applied in many varied relations, without departing from the spirit and scope of the claimed invention, of which the exemplifying embodiment, herein shown and described, is intended only to be illustrative, and only for the purpose of complying with the requirements of the statutes for disclosure of an operative embodiment, but not to show all the various forms and modifications in which the invention might be embodied.

On the drawings, in which the same reference characters refer to the same parts throughout, and in which is disclosed such a practical construction:

Fig. 1 is a fragmented perspective view, showing the component layers of the composite floor in disassembled relationship;

Fig. 2 is a plan view of a finished composite floor formed according to the present invention; and

Fig. 3 is a sectional view to enlarged scale, taken on the line 3—3 of Fig. 2, the bottom portion of Fig. 3 being a continuation of the top portion thereof as indicated by the arrows and the common dot-and-dash lines.

Referring to the drawing in detail, a composite floor **10** is shown as laid on a surface F of a room in a dwelling or other building. Surface F usually is of wood. Generally, it may be that composite floor **10** is coextensive with surface F; floor **10**, in certain relations, may cover only an area of surface F. Composite floor **10** may comprise a base grid **12** in which openings **14** may be provided for the reception of ornamental pieces, such as ceramic tiles **16**. On grid **12** may be disposed floor covering sheet material **18** which is secured to the grid and interfits with the ceramic tiles. It is intended that the ceramic tiles and the floor covering sheet material have their exposed surfaces coplanar, or at a common level, in order collectively to define a uniform floor surface S as a result of the composite floor.

Grid **12** may be formed of any suitable "underlayment" sheet material, such as plywood, compressed wood fibre board, or the like, the word, "underlayment" being a term used in the trade to designate the foundation layer used in creating a multiple layer floor. Openings **14** may be produced in any suitable manner, as, for instance, by being cut out of the grid either by punching or by any other method. The openings may have any desired design and configuration, in accordance with the resultant esthetic effect desired. Grid **12**, in the illustrated embodiment, is formed from a sheet of plywood, and is nailed or otherwise secured to surface F. In the recesses defined by openings **14**, a first layer **20** of felt, or a material of compressed matted wood fibers and some binder, as commonly known in the market-place and sold under the name of "Masonite," or like material, or a combination thereof, may be positioned and secured by nails, cementing or the like. Layers **20** are substantially coextensive with openings **14**; they may be dimensioned to leave a small space between their edges and edges **22** of openings **14**, for the introduction of a grout **24**.

Layers **20** serve as shims for lifting ceramic tiles **16** to a level substantially that of surface S. To the top face of layers **20** may be applied a suitable ceramic tile adhesive **26**. Tiles **16** are placed on top of the shims provided by layers **20**, and are held there by means of adhesive **26**. Such adhesive will flow into the spaces to be occupied by the grout in the process of securing the tiles in place.

A grout **24** is inserted in the spaces between superposed tiles **16** and layers **20**, and the edges **22** of the grid. The grout may be applied by means such as a putty knife, or other suitable tool. The grout is of the type which expands on hardening, to fill up the space between tiles **16** and layers **20**, and edges **22**, to provide a tight seal.

Felt **28** may provide a liner, and may take the form of a grid similar in design to grid **12**. If desired, a series of strips of felt may be secured to surface **29** of grid **12** in the spaces left around the portions of tiles **16** which project above surface **29**. The felt may be held in place by means of linoleum paste **30**, or a suitable waterproof adhesive. Similarly, floor covering sheet material **18** may be made up in the form of a grid, or may take the form of strips to be applied upon felt **28**. Sheet material **18** may be vinyl, rubber, linoleum, or the like. The grid or strips of sheet material **18** may be secured to surface **31** of felt **28** by means of a suitable adhesive **32**, such as vinyl adhesive, waterproof adhesive, or linoleum paste, which may be water soluble. Sheet material **18**, in grid or strip form, fills the space left by the upstanding portions of tiles **16**, and brings the effective floor surface up to a common level with the top faces of the tiles.

The upper peripheral edges **34** of tiles **16** generally have a rounded or convexed contouring, as a result of their method of manufacture. For this reason, edges **36** of sheet material **18** may be scribed or undercut to produce a configuration which is complementary to the shaping

of edges 34, in order to interfit therewith, as shown in Fig. 3. Since a small gap may remain between edges 34 and 36, regardless of the accuracy of the scribing or undercutting of edges 36, a mixture of grout and pigment may be inserted in said small gap, serving to cement the tiles and sheet material 18 together at that position.

Where sheet material 18 is in the form of strips, rather than a grid, it is apparent that various designs may be produced to reflect individual taste. Grid 12 may be of integral construction, and may be punched out or otherwise processed. Different sections may be utilized for different areas of the same floor. The composite floor may be designed to cover only a distinct area of floor F, while the rest of floor F beyond that area may be covered with other floor covering material.

Base grid 12 may have its openings 14 formed with any desired design and configuration which will best serve to achieve any one of almost an infinite variety of esthetic floor effects when installed with associated floor materials in the manner described. The resultant design may be built around the use of any number and shapes of tiles. Pursuant to the method described, relatively unskilled labor may be utilized to achieve professional results reflecting individuality in design and material selection.

Many other changes could be effected in the particular constructions, and in the methods of use and construction, and in specific details thereof, hereinbefore set forth, without substantially departing from the invention intended to be defined herein, the specific description being merely of an embodiment capable of illustrating certain principles of the invention.

What is claimed as new and useful is:

1. A composite floor, comprising a grid formed of an "underlayment" sheet material and having a cut-out area of preselected outline, a tile adapted to be located and secured in said area and of an outline complementary to said area outline, and floor covering sheet material adapted to be secured to said grid in superposed relation therewith, said floor covering sheet material interfitting with said tile at a common level therewith, whereby the exposed surface of the floor is constituted by said tile and said floor covering sheet material.

2. A composite floor, comprising a prefabricated grid formed of an "underlayment" sheet material and having a cut-out area of preselected outline, said grid being superimposed upon and secured to a supporting floor, a layer of sheet material defining a shim having a peripheral outline complementary to said preselected outline, the shim being secured to said supporting floor at said cut-out area, a tile superposed upon and secured to said shim, said tile and shim being substantially coextensive, and floor covering sheet material superposed upon said grid and interfitting with said tile, whereby the exposed surface of the floor is constituted by said tile and said floor covering sheet material.

3. A composite floor, comprising a prefabricated grid formed of an "underlayment" sheet material and having a cut-out area of preselected outline, said grid being superposed upon and secured to a supporting floor, a layer of sheet material defining a shim having a peripheral outline complementary to said preselected outline, the shim being secured to said supporting floor at said cut-out area, a tile superposed upon and secured to said shim, said tile and shim being substantially coextensive, floor covering sheet material superposed upon said grid and interfitting with said tile, whereby the exposed surface of the floor is constituted by said tile and said floor covering sheet material, and a liner secured between said grid and said floor covering sheet material in surface-to-surface relation therewith.

4. A composite floor, comprising a prefabricated grid formed of an "underlayment" sheet material and having a cut-out area of preselected outline, said grid being superimposed upon and secured to a supporting floor, a layer of sheet material defining a shim having a peripheral outline complementary to said preselected outline, the shim being secured to said supporting floor at said cut-out area, a tile superposed upon and secured to said shim, said tile and shim being substantially coextensive, and floor covering sheet material superposed upon said grid and interfitting with said tile, whereby the exposed surface of the floor is constituted by said tile and said floor covering sheet material, the upper peripheral edges of said tile being convexly curved, and edges of said floor covering sheet material adjacent said tile edges being scribed or undercut to provide a contour complementary to and interfitting with said tile edges.

5. A composite floor, comprising a prefabricated grid formed of an "underlayment" sheet material and having a cut-out area of preselected outline, said grid being superimposed upon and secured to a supporting floor, a layer of sheet material defining a shim having a peripheral outline complementary to said preselected outline, the shim being secured to said supporting floor at said cut-out area, a tile superposed upon and secured to said shim, said tile and shim being substantially coextensive, floor covering sheet material superposed upon said grid and interfitting with said tile, whereby the exposed surface of the floor is constituted by said tile and said floor covering sheet material, and grout filling the space between said tile and shim and said grid to provide a tight seal.

6. A composite floor, comprising a prefabricated grid formed of an "underlayment" sheet material and having a cut-out area of preselected outline, said grid being superimposed upon and secured to a supporting floor, a layer of sheet material defining a shim having a peripheral outline complementary to said preselected outline, the shim being secured to said supporting floor at said cut-out area, a ceramic tile superposed upon and secured to said shim, with said tile and shim being substantially coextensive, and vinyl sheet material superposed upon said grid and interfitting with said tile, whereby the exposed surface of the floor is constituted by said tile and said vinyl sheet material, the upper peripheral edges of said tile being convexly curved, and edges of said vinyl sheet material adjacent said tile edges being scribed or undercut to provide a contour complementary to and interfitting with said edges.

7. A composite floor laid on the floor of a building structure, comprising a prefabricated grid formed of an "underlayment" sheet material, said grid being secured to the building floor and having cut-out areas of preselected outline and design, sheet material shims having outlines complementary to the outline of said cut-out areas, the shims being secured to the building floor at said cutout areas, ceramic tiles superposed upon and secured to said shims and interfitting in said cut-out areas, a sheet material liner superposed on and secured to said grid, and floor covering sheet material superposed on and secured to said liner, said grid, liner and floor covering sheet material being substantially coextensive and interfitting with said ceramic tiles, the exposed surfaces of said ceramic tiles and said floor covering sheet material being coplanar and collectively defining the surface of the composite floor.

8. A composite floor laid on the floor of a building structure, comprising a prefabricated grid formed of an "underlayment" sheet material, said grid being secured to the building floor and having cut-out areas of preselected outline and design, sheet material shims having outlines complementary to the outline of said cut-out areas, the shims being secured to the building floor at said cutout areas, ceramic tiles superposed upon and secured to said shims and interfitting in said cut-out areas, a sheet material liner superposed on and secured to said grid, and floor covering sheet material superposed on and secured to said liner, said grid, liner and floor covering sheet material being substantially coextensive and interfitting with said ceramic tiles, the exposed surfaces

of said ceramic tiles and said floor covering sheet material being coplanar and collectively defining the surface of the composite floor, said tiles having curved upper peripheral edges and said floor covering sheet material having adjacent edges of complementary contour interfitting with said upper peripheral edges.

9. A composite floor laid on the floor of a building structure, comprising a prefabricated grid formed of an "underlayment" sheet material, said grid being secured to the building floor and having cut-out areas of preselected outline and design, sheet material shims having outlines complementary to the outline of said cut-out areas, the shims being secured to the building floor at said cutout areas, ceramic tiles superposed upon and secured to said shims and interfitting in said cut-out areas, a sheet material liner superposed on and secured to said grid, floor covering sheet material superposed on and secured to said liner, said grid, liner and floor covering sheet material being substantially coextensive and interfitting with said ceramic tiles, the exposed surfaces of said ceramic tiles and said floor covering sheet material being coplanar and collectively defining the surface of the composite floor, and filler means disposed in the spaces between the grid and adjacent peripheral edges of said superposed shims and tiles.

10. A composite floor adapted to be laid on the floor of a building structure, comprising a prefabricated grid formed of an "underlayment" sheet material, said grid having one or more cut-outs of preselected outline, a lining layer and floor covering sheet material layer superposed on and adapted to be secured to said grid, said layers having edges coextensive with the cut-out edges, and one or more sets of a shim layer and a ceramic tile disposed in superposed relation and adapted to be secured in each of the cut-outs, the shim layer and ceramic tile of each set being substantially coextensive and having a configuration complementary to the respective cut-out outline, the floor covering sheet material and the tile being adapted to interfit so that their exposed surfaces are coplanar and collectively define the exposed surface of the composite floor.

11. A method of laying a composite floor on the floor of a building structure, comprising the steps of securing to the building floor a grid formed of an "underlayment" sheet material and having one or more cut-outs of preselected outline, securing a shim layer to the building floor at each of said cut-outs, securing to said shim layer at said cut-out a ceramic tile having a configuration complementary to the respective cut-out, and securing floor covering sheet material to said grid in interfitting relation with said tile so that the exposed surfaces of said last mentioned sheet material and tile are coplanar and collectively define the exposed surface of the composite floor.

12. A method of laying a composite floor on the floor of a building structure, comprising the steps of securing to the building floor a grid formed of an "underlayment" sheet material and having one or more cut-outs of preselected outline, securing a shim layer to the building floor at each of said cut-outs, securing to said shim layer at said cut-out a ceramic tile having a configuration complementary to the respective cut-out, securing a lining layer to said grid in predetermined relation therewith so that said lining layer and grid have coextensive edges at each of said cut-outs, and securing floor covering sheet material to said lining layer in interfitting relation with said tile so that the exposed surfaces of said last mentioned sheet material and tile are coplanar and collectively define the exposed surface of the composite floor.

13. A method of laying a composite floor on the floor of a building structure, comprising the steps of securing to the building floor a grid formed of an "underlayment" sheet material and having one or more cut-outs of preselected outline, securing a shim layer to the building floor at each of said cut-outs, securing to said shim layer at said cut-out a ceramic tile having a configuration complementary to the respective cut-out, inserting a grout in the space between the grid cut-out edges and the adjacent edges of said shim layer and ceramic tile, securing a lining layer to said grid in predetermined relation so that said lining layer and grid have coextensive edges at said cut-outs, and securing floor covering sheet material to said lining layer in interfitting relation with said tile so that the exposed surfaces of said last mentioned sheet material and tile are coplanar and collectively define the exposed surface of the composite floor.

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