

Sept. 18, 1956

F. E. MASLAND, JR

2,763,587

TILE FLOOR COVERING

Filed May 7, 1953

2 Sheets-Sheet 1

Fig. 1.

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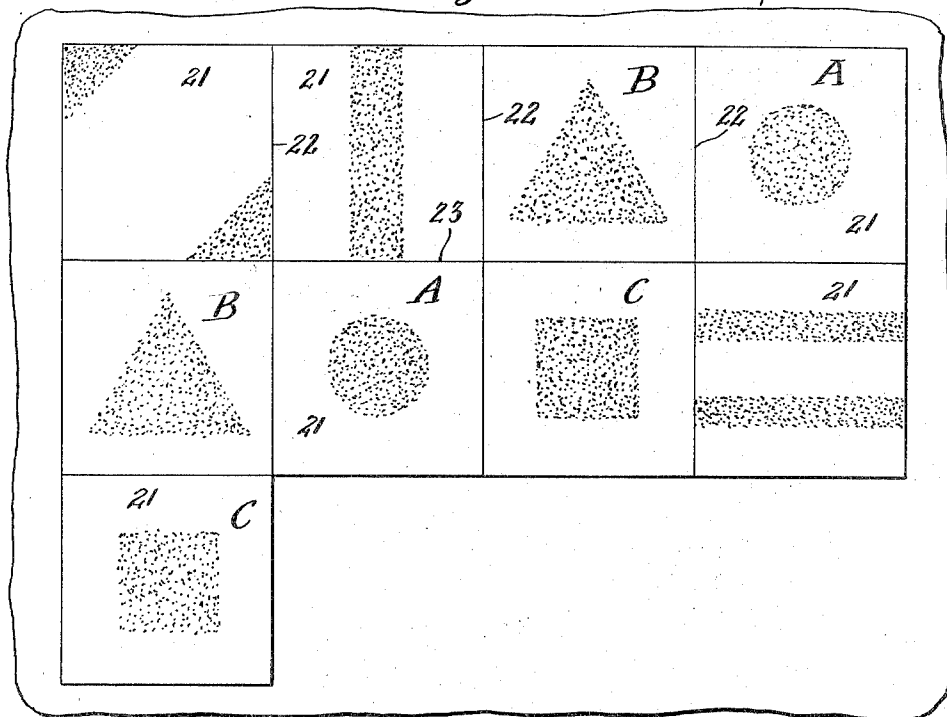


Fig. 2.



Fig. 3.



Fig. 4.

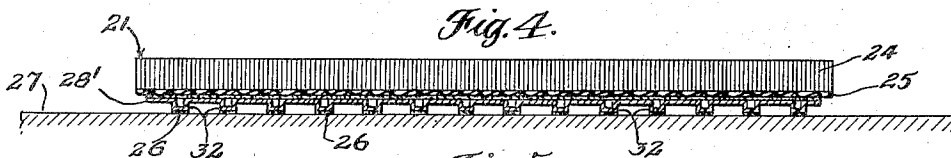
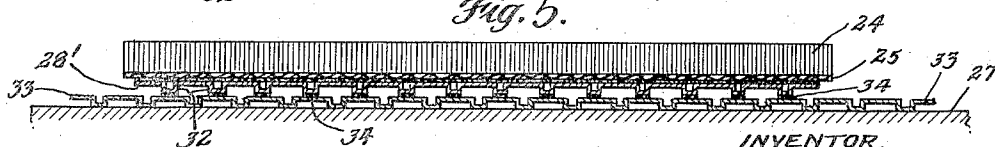
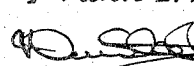


Fig. 5.



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Fig. 6.

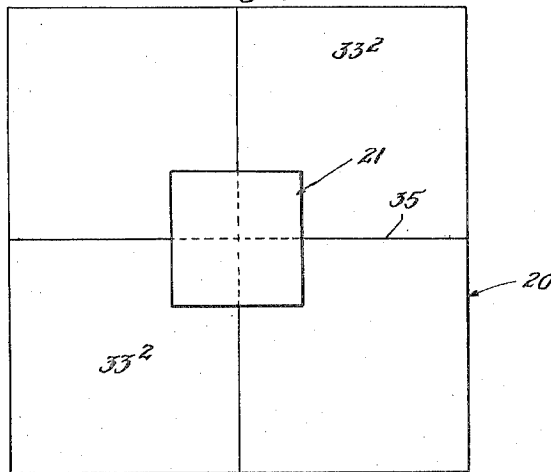


Fig. 7.

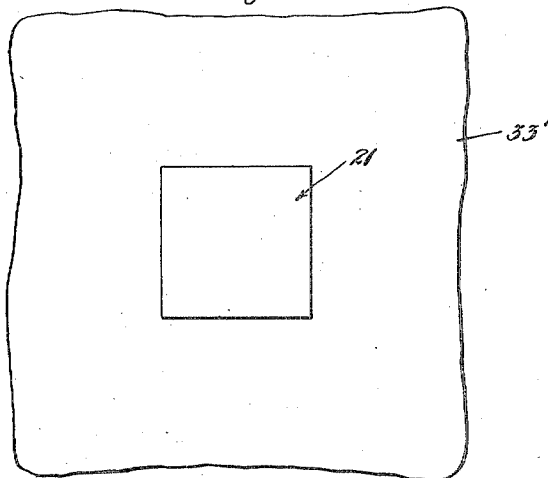


Fig. 8.

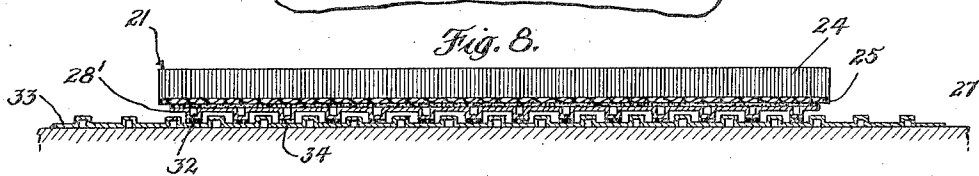
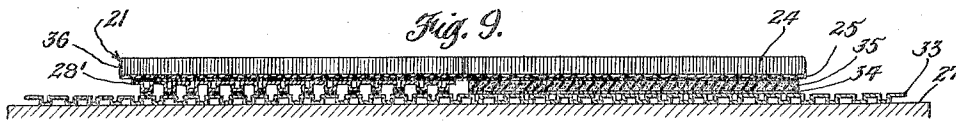
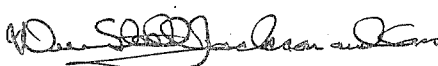


Fig. 9.



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TILE FLOOR COVERING

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1 Claim. (Cl. 154—49)

The present invention relates to floor coverings of the character of carpets and rugs.

A purpose of the invention is to increase the versatility of floor covering designs and allow the user to create special effects from carpet.

A further purpose is to facilitate the carpeting of rooms having shapes which are not standard.

A further purpose is to make it easy to replace worn portions in a carpet.

A further purpose is to offer an opportunity to create novelty effects by the decorator.

A further purpose is to secure tile squares of carpet in side by side relation by cementing them directly to the floor, or by providing separate cushion backings on the tile squares and cementing such backings to the floor, or by placing cushion sheets or squares on the floor and cementing the tile squares to the cushion squares, desirably staggering the joints.

A further purpose is to employ a cushion backing which has ribs and thus improve the resilience of the floor covering.

A further purpose is to interlock upwardly directed ribs on cushion backing sheets with downwardly directed ribs on backing applied to the carpet tiles, and to cement the ribs in interlocking relation.

A further purpose is to undercut a resilient backing on the tiles behind the edge of the carpet so that it will not interfere in close abutment of the tiles.

A further purpose is to place an integral cushion material having downwardly directed ribs on the back of a carpet in order to increase the wear of the carpet and improve the resilience of the floor covering.

A further purpose is to cement a cushion material having integral downwardly directed ribs on the back of a carpet tile and to cement the tile on the top of a similar cushion material having downwardly directed ribs.

A further purpose is to provide alternate cushions on the backs of carpet tiles and to place tiles having special cushions, consisting, for example of foam rubber, at locations of abnormal wear.

A further purpose is to cement the edges of the carpet tile for sealing.

Further purposes appear in the specification and in the claim.

In the drawings I have chosen to illustrate a few only of the numerous embodiments of my invention, selecting the forms shown from the standpoints of convenience in illustration, satisfactory operation and clear demonstration of the principles involved.

Figure 1 is a top plan view of a floor covering to which the invention has been applied.

Figures 2 to 5 are fragmentary diagrammatic vertical sections showing variations in the floor coverings of the invention.

Figures 6 and 7 are fragmentary top plan views of alternate floor coverings constructed in accordance with the invention.

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Figures 8 and 9 are fragmentary diagrammatic vertical sections of further variations in the floor covering of the invention.

Describing in illustration but not in limitation and referring to the drawings:

Wide use has been made in the past of tiles for floor coverings. Tiles have been produced of linoleum, rubber, asphalt, and various synthetic plastics. They offer the advantage of great versatility, since tiles of one color or design can be interspersed with those of another color or design to create pattern effects. They also are reasonably easy to lay and permit conforming the tile arrangement to the shape of a room having any desired contour.

Carpets offer many advantages as floor coverings, since they are soft, attractive, luxurious, and free from tendency to slip. It has generally, however, not been possible to obtain special carpet designs which are peculiarly adapted to the needs of a particular room or the ideas of a particular householder or decorator.

The present invention is designed to impart great flexibility in the designing of floor coverings of carpet by permitting the use of tiles composed of carpet. Thus tiles of various colors or designs can be used in any preferred sequence, establishing an effective way of designing for the needs of the particular installation or according to the ideas of the particular designer.

The laying of the tiles is greatly facilitated in the invention, since they can either be cemented directly to the floor, or can be cemented to a cushion backing which is either an over-all backing or a series of squares similar to tile, and can be interlocked with the cushion backing as well as cemented to it. The tiles thus may consist entirely of carpet cut into squares and desirably coated on the edges to prevent unravelling, or the tiles may consist of carpet carrying with it a backing, suitably of cushion material.

The carpet edges on the tile can be brought very close together if the cushion backing which forms part of the tile is slightly undercut.

The joints in the carpet tiles will desirably be differently placed from the joints in the backing which is directly against the floor, so that no tendency of the carpet to hump or show unevenness at the joints of the underlay will exist.

The cushion material on the back of the carpet tile and the undercushion are desirably made of integral solid ribbed construction comprising for example paper felt, and the ribs will desirably be downwardly directed both on the back of the carpet tile and on the undercushion, although in some cases the ribs will to advantage be interlocked.

It is desirable to seal the weave at the edges to prevent any possibility of fraying or unravelling.

In some instances it is preferable to employ in areas of unusual traffic a special cushion on the back of the carpet, consisting for example of foam rubber. Alternate tiles are desirably made having the foam rubber cushion on the back of the carpet, the foam rubber being of the same thickness as the paper felt or the like used on other tiles so that tiles in one area can be backed, for example, by paper felt, and those in another area by foam rubber.

Considering first the form of Figure 1, it is noted that a cushion backing 20 has been provided directly against the floor. This will, if desired, be cemented to the floor, although in most cases cementing of this cushion backing 20 to the floor is unnecessary.

Tiles 21 extend over the backing in abutting relationship, forming longitudinal joints 22 and lateral joints 23. There will desirably be a recurring pattern in the floor covering, tiles A, B and C suitably being alike in color or surface design or contouring of the pile (high

and low in the same transverse row), and other features similarly conforming to the pattern.

Each of the carpet tiles as shown is a square suitably 9 x 9 inches, but permissibly as large as 12 x 12 inches. Tiles larger than 12 x 12 inches are not preferred. Each of the carpet squares comprises pile 24 and the usual woven backing 25 which is formed on the back of the carpet in weaving.

The carpet is suitably woven in a large piece, and precautions are desirably taken to prevent unravelling at the edge. The back is preferably coated with a layer of latex or rubber which penetrates and cements the warps and wefts together in the backing 25.

The tile may be secured in place in various ways. Figure 2 shows the tile 21 directly cemented at 26 to the floor 27. This is permissible because the cushioning effect of the carpet tends to create a soft feel even though no cushion backing is employed.

In the preferred embodiment, however, a cushion backing under the carpet is used, as it tends to eliminate the effects of discontinuities in the floor and adds to the wearing qualities of the carpet and the softness of the feel.

In Figure 3 each individual carpet square has a cushion backing sheet 28 cemented thereon by adhesive 30 between the cushion sheet 28 and the woven backing of the square. The cushion on the square is undercut at 31 around all edges to reduce the likelihood that the cushion backing could protrude and interfere with close lateral fitting of the squares of carpet to carpet.

Any suitable adhesive may be used at 30 to unite the woven backing of the carpet to the cushion backing 28 on the square, rubber, synthetic rubber, casein, polyvinyl chloride and animal glue being permissible.

The cushion backing 28 may if desired be a sponge paper felt as used under linoleum, roofing felt, jute felt, or wool felt.

In the form of Figure 3 the cushion backing 28 is united directly to the floor 27 by adhesive 26 which may be linoleum or asphalt tile setting adhesive.

In some cases it is preferred to obtain greater resilience in the cushion backing and in Figure 4 I show a cushion backing 28' of resilient paper felt having integral spaced parallel downwardly directed ribs 32 distributed over the bottom surface and cemented by the adhesive 26 to the floor. There are here substantial air pockets adjoining the floor which tend to give great resilience.

It is desirable in some cases to obtain even greater resilience, and this is best done by cementing to the back of the carpet a cushion material such as paper felt at 28', having integral solid ribs 32 downwardly directed, and to place an undercushion 33 desirably of the same material having the ribs downwardly directed as shown in Figure 5. The surfaces of the cushion material opposite to the ribs are desirably plane surfaces. The backing cushions 23' on the back of the carpet tiles are desirably cemented to the top of the undercushion at 34. It has been found that in most cases it is advantageous simply to rest the undercushion on the floor, and that it is not necessary to cement the undercushion to the floor.

While the undercushion 33 may be a continuous sheet as shown at 33' in the top plan view of Figure 7, it preferably consists of a plurality of squares 33² as indicated in Figure 6, the squares 33² desirably being of a different size than the carpet tiles, and suitably considerably larger, so that the joints on the undercushion will be staggered with respect to those on the carpet tiles. Thus it will be easy to cut the squares on the undercushion to odd shapes, but no difficulty will be encountered because of abutting joints 35 in the undercushion, which will not cause humps on the face.

The ribs on the undercushion and the carpet tile can be interlocked if desired, as shown in Figure 8, where

the integral paper felt 28' having downwardly directed ribs at 32 is mounted on a sheet of integral paper felt 33 having upwardly directed ribs. The ribs of the downwardly directed sheet and the upwardly directed sheet will suitably interlock and the sheets are cemented together at 34.

In some cases it is preferable to employ special carpet tiles having a foam rubber backing 35 cemented to the back of the carpet in areas of special wear, the foam rubber backing being cemented at 34 to the undercushion 33. The foam rubber is desirably of the same thickness as the ribbed paper felt backing 28' so that the different carpet tiles may be used interchangeably.

If there is any danger of unravelling, this is desirably prevented by coating the cut edges of the woven carpet at 36, with any suitable adhesive such as rubber, synthetic rubber, or ethyl cellulose.

Any suitable adhesive may be employed to unite the carpet tile to the cushion backing below, among which are linoleum cement, asphalt tile cement, rubber cement, polyvinyl chloride adhesives, casein adhesives and animal glue.

It will be evident that the invention can be used very effectively to create attractive designs according to the taste of the user, and also to permit rapid replacement of damaged sections. For example if ink or the like is spilled on an ordinary carpet, the damage is often irreparable, but in the case of the present invention a square or a few squares can be taken up and others cemented down in their place.

In view of my invention and disclosure variations and modifications to meet individual whim or particular need will doubtless become evident to others skilled in the art, to obtain all or part of the benefits of my invention without copying the product and method shown, and I therefore claim all such insofar as they fall within the reasonable spirit and scope of my claim.

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

A floor covering having an upper surface consisting of carpet, comprising a plurality of carpet tile squares of uniform size not in excess of 12 x 12 inches arranged side by side in rows, having a pattern extending over the floor covering consisting of a series of pattern repeats connected together, each of the pattern repeats consisting of squares of different pattern appearance having pattern units in successive positions in the repeat and all of the repeats having squares of the same appearance in the same relative position in the repeat, in combination with a sheet of paper felt forming a backing united to the back of each carpet tile and having integral solid ribs directed away from the carpet, and an undercushion of paper felt having integral solid ribs directed away from the carpet, the paper felt backing on the carpet tiles being cemented to the undercushion and the undercushion being below the tiles and the paper felt backing.

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