March 20, 1934. S. D. BUTTERWORTH 1,951,965

FLOORING

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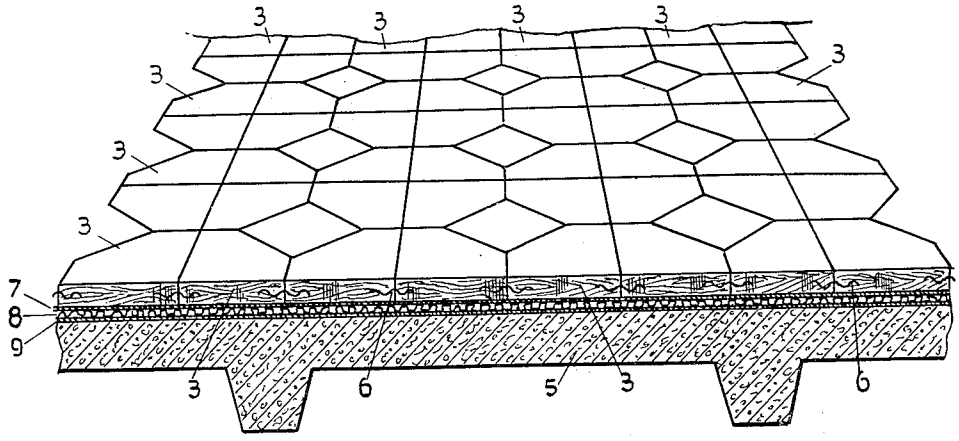


FIG. 1

FIG. 2

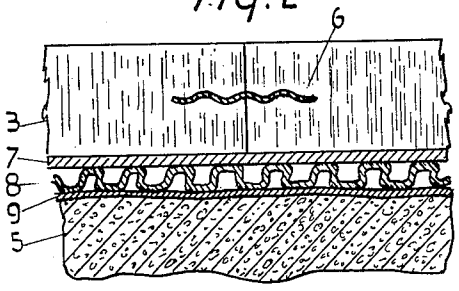
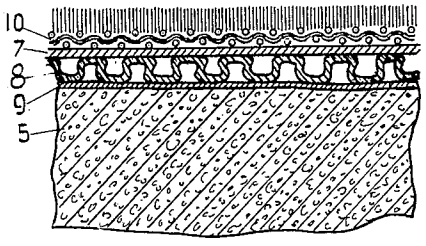


FIG. 3



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FLOORING

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4 Claims. (Cl. 20—7)

This invention relates to flooring and has to do particularly with a floor which embodies a filler or cushion element. More particularly, the invention is concerned with the provision of a filler or cushioning element disposed between the base or structural floor support and the floor surface element or elements which may form the exposed surface. The floor surface may be of wood either in strip of tile form or of fabric such as carpet or the like. The filler is disposed underneath the exposed flooring and is arranged to accommodate for irregularities in the underlying structural floor support and also to give a cushioning or quieting effect, especially where the surface is of hard material such as wood or other tiling.

More especially the invention is directed towards a filler advantageously constructed of fiber board embodying preferably a corrugated formation which functions in the silencing action and has the function of accommodating for irregularities.

In the accompanying drawing:

Fig. 1 is a more or less diagrammatic view and illustration of a floor composed of tile with the filler between the tile and the underlying floor support.

Fig. 2 is an enlarged detail thereof.

Fig. 3 is an enlarged view and illustration of the use of the fiber board filler with the fabric surface member or carpet.

The tile floor such as shown in Fig. 1 may be made of wooden blocks laid in end grain manner, that is, with the grain disposed vertically. With the present invention such a wood floor advantageously may be laid up with concrete structural flooring such as is ordinarily employed in modern steel and concrete buildings.

A conventional concrete flooring of a modern steel and concrete building is referenced 5 and the wooden flooring may be merely floated upon the concrete with no means of attachment thereto. The wooden tile pieces may be secured together as by means of corrugated metallic tying members 6 which may be driven into two adjoining tiles. Of course the flooring may be laid upon a base of wood or other material, and it may be bonded to the base if desired rather than floating it on the base.

It is appreciated that the surface of a concrete floor, while being level in general, possesses a more or less pitted or irregular surface, as illustrated in Fig. 2. Accordingly, it is preferable to place a filler between the wooden floor and the concrete of the base for the purpose of absorbing such irregularities. This filler may be in the form of paper or composition board, and as shown in Fig. 2 the filler is in the form of paper board having exterior facings 7 and 8 with an interior corrugated member 9. This filler is more or less distortable and accommodates for irregularities in the concrete and also acts as a silencer.

It is important to note that the filler used between the floor base and the wearing part of the floor can be of relatively cheap fiber board construction. Preferably the exterior layer 9 is of relatively light constuction to permit the filler to adjust itself to the irregularities in the base, as clearly shown in Figs. 1 and 2. The layer 7, however, may advantageously be of thicker material and accordingly stronger and stiffer. The interior corrugated member 8 distorts somewhat at the corrugations which lie over a rise in the floor, and the filler provides a permanent air cushion between the base and the wearing part of the floor. It is preferable that one or both of the exterior layers 7 and 9 be water-proofed. This prevents moisture in any appreciable degree from getting into the corrugated layer 8. Thus the corrugated member possesses a long life and forms flooring which is more or less resilient. In other words, when weight is on the floor, the corrugated portions are compressed or flattened out slightly, but this weight is distributed over an area sufficient to prevent complete collapsing or destruction of the corrugated portions. These corrugated portions may spring back in place when the weight is relieved from the floor.

This fiber board insert is also advantageous, for use with the floors other than wood. For example, in Fig. 3, there is shown a floor wherein a fabric carpet 10 is laid over the fiber board insert. It has been the practice in many places to lay a thick felt pad underneath these carpets, but this is very expensive and allows the carpet to wrinkle and fold so that it is difficult to make the carpet lie flat. By the use of this fiber board insert, however, the same hugs the floor base and is not subject to folding or wrinkling and at the same time the insert is relatively cheap. This insert will provide an air cushion for the flooring and the corrugated inner member will stand up under a long period of use, especially when the exterior layers are water-proof to prevent moisture from softening the inner corrugated member. In some of the claims appended hereto use is made of the term "surface member" of the floor and this term is understood to cover any floor

covering, whether it be wood, carpet or other material.

Such a floor is not only economical due to the fiber board insert as compared to the more expensive felt but it may be relatively easily and quickly laid. The filler end surface member may be floated upon the underlying floor base and by this we mean merely laid thereon with the means of attachment. On the other hand, the floor may be more or less bonded as for example: The fiber board filler may be applied to the underlying floor base by the use of a suitable mastic applied either hot or cold and likewise the surface member may be attached to the corrugated fiber board filler by the use of a suitable mastic. In other words, mastic may be used between the concrete 5 and outer surface 9 and/or between the surface 3 and facing strip 7. The mastic may be used in either one or both of these locations. The mastic referred to may be any substance suitable for the purpose such as pitch or asphalt.

I claim:

1. A flooring comprising a base, an exposed member providing a wearing surface supported by the base, a fiber board filler between the base and support consisting of an inner corrugated member disposed between exterior sheet-like members, said sheet-like members being waterproofed to prevent access of moisture to the corrugated member, the said sheet-like member next adjacent the base being relatively flexible to adjust itself to irregularities in the base and the said sheet member next adjacent the exterior wearing member being relatively stiff so as to remain substantially non-distorted when the filler adjusts itself to irregularities in the base.

2. A floor structure comprising in combination, a base floor of concrete or the like presenting a continuous supporting surface and which surface is subject to irregularities, an intermediate member comprising a corrugated fiber board, upper and lower fibrous sheets between which the corrugated fibrous board is positioned, the lower fibrous sheet resting immediately upon the base floor and being adapted to substantially adjust itself to irregularities in the base floor, and a surfacing comprising tile members positioned edge to edge and resting upon the upper fibrous sheet, said upper fibrous sheet being of such stiffness as to distribute a load widely over a plurality of said corrugations whereby a substantially level support for the tile is provided.

3. A floor structure comprising in combination, a base floor of concrete or the like presenting a continuous supporting surface and which surface is subject to irregularities, an intermediate member comprising a corrugated fiber board, upper and lower fibrous sheets between which the corrugated fibrous board is positioned, the lower fibrous sheet resting immediately upon the base floor, said lower fibrous sheet being relatively flexible so that it may substantially adjust itself to irregularities in the base, and a surfacing comprising tile members positioned edge to edge and resting upon the upper fibrous sheet, said upper fibrous sheet being relatively stiff so as to distribute a load widely over a plurality of corrugations whereby a substantially level support for the tile is provided.

4. A floor structure comprising in combination, a base floor of concrete or the like presenting a continuous supporting surface and which surface is subject to irregularities, an intermediate member comprising a corrugated fiber board, upper and lower fibrous sheets between which the corrugated fibrous board is positioned, the lower fibrous sheet resting immediately upon the base floor and being adapted to substantially adjust itself to irregularities in the base floor, and a non-rigid surfacing resting upon the upper fibrous sheet, said upper fibrous sheet being relatively stiff as compared to the lower fibrous sheet so as to distribute a load widely over a plurality of said corrugations whereby a substantially level support for the surfacing is provided.

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