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L. S. CASE

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FLOOR COVERING

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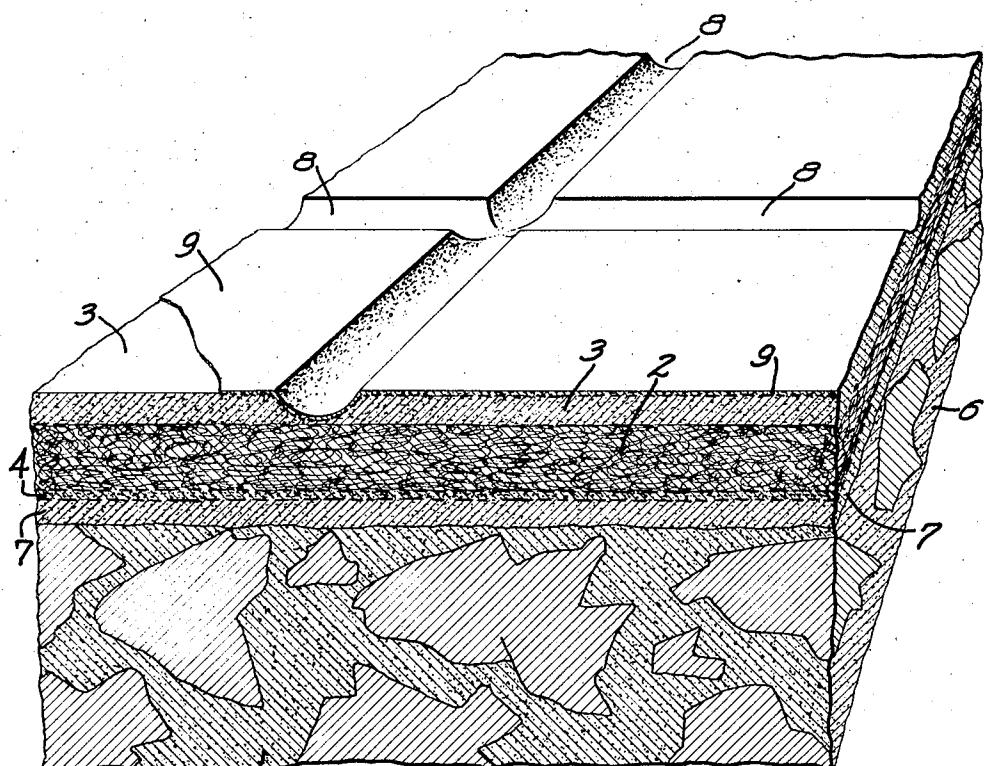


Fig. 1

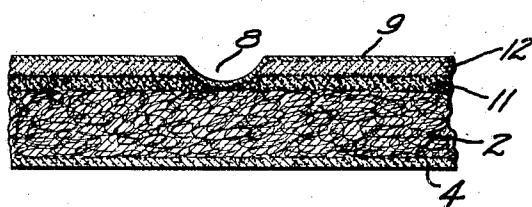


Fig. 2

INVENTOR.  
LELAND S. CASE  
BY Charles S. Evans

HIS ATTORNEY

## UNITED STATES PATENT OFFICE

1,925,302

## FLOOR COVERING

Leland S. Case, San Francisco, Calif., assignor  
to The Paraffine Companies, Inc., San Fran-  
cisco, Calif., a corporation of Delaware

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1 Claim. (Cl. 72—63)

My invention relates to a floor covering, and particularly to a covering which presents a surface simulating the effect of tile.

It is among the objects of my invention to provide a floor covering of the character described, in connection with which the operation for producing the tiled effect may be performed either when the material is manufactured or after it is laid.

Another object of my invention is to provide a floor covering which presents a surface simulating the appearance of inlaid tile.

Still another object of my invention is to provide a floor covering of the character described, the tiling of which may readily be carried out to produce any desirable pattern or configuration, and at a time when the design may be worked out to best suit the character of the room or other surroundings.

Further objects of my invention include the provision of a floor covering of the character described which is resilient to the tread, highly durable, waterproof and resistant to agencies which usually operate to the destruction of ordinary floor coverings.

The invention possesses numerous other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of my invention. It is to be understood that I do not limit myself to this disclosure of species of my invention, as I may adopt variant embodiments thereof within the scope of the claims.

Referring to the drawing:

Figure 1 is a perspective view showing a portion of the floor covering embodying my invention laid over a concrete substructure.

Figure 2 is a vertical sectional view showing a modified form of the floor covering embodying my invention.

In the past few years bituminous treated fibrous sheets, such as the saturated and/or coated felts, have been used extensively as floor coverings. The favor with which traffic sheets of this sort have been received is due largely to certain desirable properties inherent in the material, among which might be mentioned resilience, durability, waterproofness, and resistance to agencies which usually operate to the destruction of ordinary floor coverings. Coverings of this character, however, are relatively unattractive to the eye, because the exposed bituminous coating merely presents a plain flat surface.

The broad object of my invention is to provide a floor covering of the character above de-

scribed which simulates the effect of tile. This improved traffic sheet is not only possessed of the desirable properties characterizing a bituminous treated fibrous sheet, but in addition presents a surface which is distinctive and attractive.

In terms of broad inclusion the floor covering embodying my invention comprises a base sheet, preferably of a resilient material, such as felt. A layer of bituminous material is provided overlying the base sheet, and the composite traffic sheet thus formed is provided with grooves in the upper surface thereof to simulate the effect of tile. A finishing coating is also preferably provided overlying the bituminous layer.

In the preferred form of my invention the fibrous base sheet is saturated with bitumen, and the overlying layer of bituminous material is applied as a coating. The grooves giving the tiled effect are preferably cut out of the bituminous layer, and may be arranged to present any desirable pattern or configuration. The finishing coating is of a protective material, preferably varnish. In the modified form of my invention a plurality of different colored layers of bitumen are provided overlying the base sheet; the tilting grooves being cut through a top layer to expose portions of an underlying layer to simulate the effect of inlaid tile.

In greater detail, and referring particularly to Figure 1, the floor covering embodying my invention comprises a base sheet 2. I have found it convenient and satisfactory to make this sheet of fibrous material, such as a rag felt ranging from 35 to 70 pounds per 480 sq. ft. The furnish for this felt may be of any suitable material, such as for example a furnish comprising 10% old newspapers, 15% wool rags, 10% burlap and 65% cotton rags. If desirable, a filler, such as wood sawdust or the like, may be added to the furnish. The stock is preferably beaten very short, for such a weight of felt, and is preferably well jordaned.

In order to give body and strength to the fibrous sheet 2, and at the same time render it waterproof and protected against deterioration, the base sheet is preferably treated with a suitable saturant. Furthermore, in order to give the treated fibrous layer a certain measure of resilience, the base sheet is preferably saturated with a semi-solid material. A bituminous saturating compound, such as a good grade of soft-blown asphalt having a softening point of from 120° to 125° and a penetration of from 50 to 80, according to the standards of the American Society for Testing Materials, has been found

to characterize the fibrous layer with the desired properties, and is preferably employed.

A layer 3 of bituminous material is provided to overlie the base sheet 2, and is preferably applied as a coating over the sheet. The bituminous material in the layer or coating 3 provides an excellent traffic layer, while at the same time it may readily be cut by a suitable tool; the latter being a step in the tiling operation as 10 will be described later. A bituminous compound, such as a blown California asphalt having a softening point of from 180° to 195° and a penetration of from 12 to 18 also according to the standards of the Society for Testing Materials, 15 is possessed of the desired characteristics, and is preferably used in the coating 3. I have found that a suitable weight for the upper layer or coating is about 13 pounds per 100 sq. ft. of coated area, this weight however may be varied 20 to suit a given set of conditions.

Preferably, a coating 4 of bituminous material similar to that described in connection with the upper coating 3 is applied to the underside of the fibrous base sheet 2 for added protection. 25 This coating of course may conveniently be made lighter than the upper coating 3; a weight of 9 pounds per hundred square feet of coated area having been found suitable. The coatings 3 and 4 coalesce more or less with the saturant of the fibrous sheet 2 to provide a floor covering or traffic sheet of integral mass.

As shown in Figure 1, the floor covering is overlaid and preferably united with a supporting substructure, such as the concrete foundation 6. The bond between the covering or traffic sheet and the substructure is preferably secured by a layer 7 of adhesive, such as a bituminous cement. A relatively hard steam blown asphalt dissolved in carbon bisulphide, benzole, or other 35 suitable solvent may be used in the bonding layer 7; it being understood however that other means may be employed to unite the covering with the substructure. Since the covering is itself of integral mass, and since the cementing compound of the bonding layer 7 unites the protective layer 4 with the foundation 6, a unitary flooring structure is provided. This unitary construction of the flooring prevents a lateral slipping of the covering and narrowly localizes 45 shocks and stresses.

The traffic sheet thus described is treated to present a surface simulating the effect of tile. To this end a plurality of grooves 8 are formed in the surface of the covering. The formation 55 of these grooves is preferably effected by cutting out portions from the upper layer or coating 3. This cutting may be effected by any suitable tool or implement having a cutting edge. The grooves 8 may be formed either when the covering is being manufactured, or after it is laid. In the latter case the tiling may actually be worked out in the presence of the owner. A further advantage of being able to work out the 60 tiled effect while on the job resides in the fact that a configuration can be developed which best suits the character of the room or other surroundings.

In the preferred form of my invention the 70 layer 3 is preferably colored to alter the natural black surface presented by the bitumen. The coloring matter is preferably added to the bituminous material before it is applied as a coating on the base sheet 2. I have found that a red pigment added to the bitumen results in a very 75 attractive floor covering; it being obvious how-

ever that other pigments may be used. As shown in Figure 1, the tiling grooves 8 are cut into but not quite through the bituminous layer 3. In this case the coloring in the grooves is the same as that presented by the surface of the tiled 80 portions.

If desirable, an inlaid tiling effect can be produced by merely increasing the depth of the grooves 8, that is, by cutting through the layer 3 and into the base sheet 2. In this manner the 85 color of the bituminous saturant in the base sheet will show up in the bottom of the groove. For example, if the saturant is an ordinary black asphalt, and the layer 3 is a bituminous material colored with a red pigment, the resulting covering will be one simulating the effect of 90 red tiles inlaid in a black cement.

A finishing coating 9 is preferably applied over the grooved bituminous layer 3. This coating is preferably of a tough transparent material, 95 and is provided to aid in holding the tiled bituminous layer 3 in shape. I have found that a good grade of floor covering varnish serves this purpose admirably. Since the varnish is transparent the coloring in the bitumen readily shows 100 up. If desirable the finishing coating 9 may be of ordinary paint, in which case the pigment in the paint would be depended upon to provide the coloring. I prefer however to add the pigment to the bituminous layer 3 and provide a 105 transparent finishing coating, because this gives a greater depth and richness to the covering.

A modified form of the floor covering embodying my invention is shown in Figure 2. In this construction a plurality of layers of bituminous 110 material are applied over the base sheet 2. As shown, two layers are preferably coated over the base sheet. The first layer 11 is coated directly on the base sheet, and the second layer 12 is coated over the first layer. The grooves 115 8 in this instance are provided by cutting through the second or top layer 12 and into the first or bottom layer 11. In this way an inlaid tiled effect is produced; the coloring of the tiles and the coloring of the grooves depending upon 120 the coloring of the layers 12 and 11 respectively. As was the case with the layer 3 shown in Figure 1, the pigments are preferably added to the bituminous materials making up the layers 11 and 12 prior to the application of these materials. The finishing coating 9 is finally applied over the exposed surface of the covering material.

The floor covering embodying my invention is particularly valuable because of its durability, 130 waterproofness and resistance to agencies which usually operate to the destruction of ordinary floor coverings. These factors taken in conjunction with the fact that the tiled effect is pleasing to the eye lead to a highly desirable floor 135 covering. Furthermore, the readiness with which the tile design may be worked out to suit a particular setting, characterizes the covering with a high degree of adaptability.

Good design is largely a matter of cultivated 140 taste, and it is a matter of common knowledge that the appearance of a particular type of room is materially enhanced by a harmonizing style of floor covering. The ease with which the tiled 145 effect may be worked out in the floor covering of my invention permits of unlimited possibilities in matters of development in pattern or configuration, and, since this choice of design is available in coverings all made in the same way, the cost of 150

manufacture and distribution is materially reduced.

I claim:

A floor covering comprising a base, a layer of 5 bituminous material overlying said base, a second layer of bituminous material of a different color overlying the first layer, and forming a

comparatively smooth surface the composite covering having grooves in the exposed surface thereof cut thru the second layer for exposing portions of the first layer to simulate the effect of inlaid tile.

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LELAND S. CASE.

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