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DECORATIVE BUILDING MATERIAL

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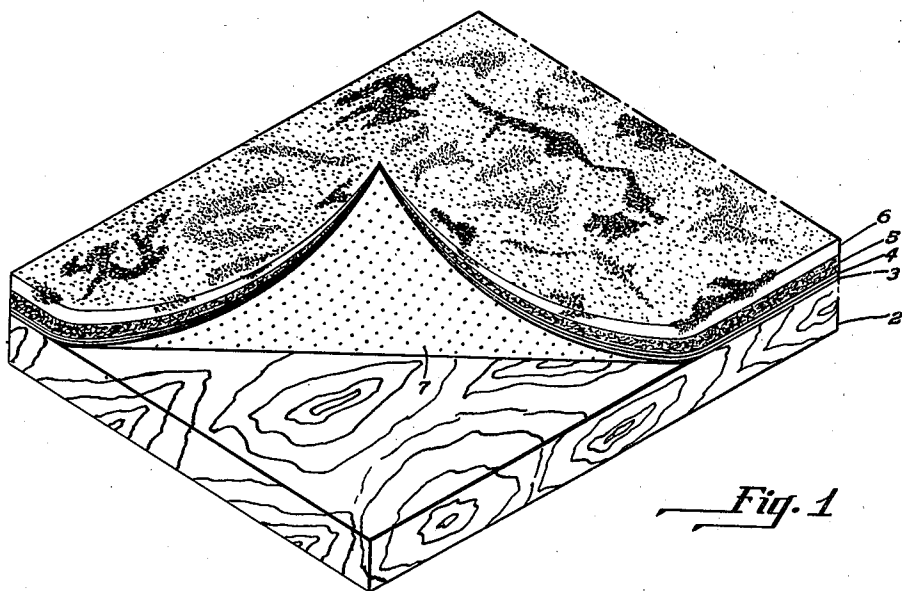
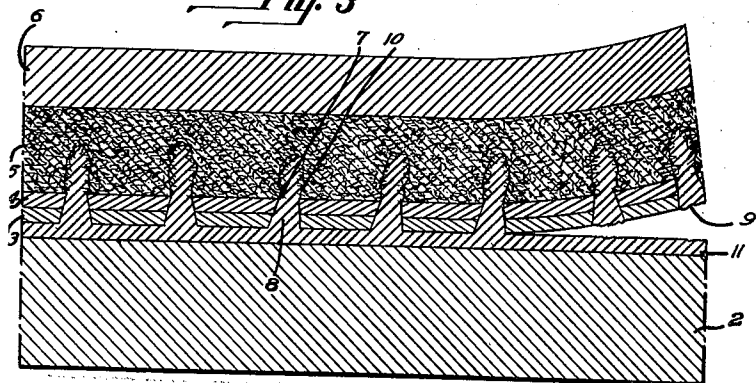


Fig. 1

Fig. 2



Fig. 3



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DECORATIVE BUILDING MATERIAL

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7 Claims. (Cl. 154—43)

The invention relates to decorative building material, and particularly to those types of laminated materials commonly referred to as "Linoflor" and felt base floor coverings, which are employed in covering floors and walls.

It has always been desired to cement such a material to the floor or to the wall, but when it becomes necessary to remove such cemented material to replace it, such removal has been attended with great difficulties in that the adhesive bond is so strong that the flooring material ruptures in the felt base, leaving irregular patches of material adhering to the floor which are difficult to remove. When the adhesive is selected so that the bond has less strength, ordinarily it is so weak that the heavy traffic upon the floor will displace it, thereby rendering the use of adhesive of no particular advantage.

It is an object of this invention to provide this type of building material with inherent characteristics permitting its ready removal from floors and walls to which it has been cemented.

It is a further object of this invention to provide such floor or wall covering with inherent characteristics such that it may be adhesively attached to the floor or wall with a sufficiently strong bond to withstand all tendency to rupture under the heaviest traffic, but at the same time such that it may be readily removed from the floor or wall to which it has been cemented.

Another object is to provide a floor or wall covering having such characteristics that it may be removed as a unit from the floor to which it is cemented without rupturing the fibrous base.

Another object of the invention is to provide a floor or wall covering of this type with perforations through the protective backing coating ordinarily applied upon such material, these perforations extending to indentations in the fibrous layer.

In the drawing, illustrative of the invention, Figure 1 is a perspective view of the building structure, the covering being partially removed from a floor or wall panel;

Figure 2 is an inverted cross section of the material; and

Figure 3 is a cross section of the structure partially stripped.

Generally, the floor or wall covering material of the type herein referred to comprises three essential layers, namely, a fibrous sheet or web, a decorative covering or layer upon one surface of the fibrous sheet, and a protective backing coating upon the opposite surface of the fibrous

sheet. The fibrous sheet may be any fibrous web of substantial thickness, such as a paper or rag felt, wet-laid or dry-laid, which may be impregnated with an asphaltic material. The decorative layer may consist of a linoleum composition or may consist of a paint, lacquer, enamel, or other suitable coating composition which is wear-resistant or decorative or both. The protective backing coating may comprise one or more layers of a suitable paint or other coating material commonly provided to hide the unsightly appearance of the fibrous material especially if it is an asphalt impregnated felt. In the case of an asphalt impregnated material, the backing coating is also used to prevent the asphalt from smudging the decorative layer when the material is rolled and to prevent the asphalt from transferring to the surface covered with the material when no adhesive is used.

The objects of my invention are attained by selecting for the protective backing for such material a paint or other coating which has relatively low tendency to adhere or to form a bond with the ordinary adhesives used in cementing the material to a floor or wall or which has a relatively low bond strength with the fibrous layer, and in then piercing the protective backing coating with pointed pins, spikes, spines, or nails, the cross section of which may be of any suitable shape, but is preferably round. When such a structure is cemented to a floor or wall, the adhesive penetrates the indentations or holes and strikes up through the protective backing into the felt. When the adhesive has set, the main strength of the bond is at the points of indentation in the backing layer, and, when the unit is pulled up, rupture occurs at one side of the protective backing layer and the adhesive is broken at the points adjacent the openings in the backing. When rupture occurs, the protective backing may remain integral with the fibrous layer of the material or it may remain in place on the adhesive layer used in joining the material to a floor or wall panel, depending upon which of such layers the backing adheres to with the greater force. Obviously, the material may be adjusted to any condition of traffic by simply providing the backing of the flooring material with indentations or holes of larger or smaller diameter or in greater or lesser number per unit of area. The larger the holes or the more numerous the holes per square foot of area, the more strength there will be in the bond, and vice versa.

Suitable low adhesive materials that may be used for the backing layer or layers to form the rupturing stratum are waxes, such as montan wax, or cold water paints. Examples of such paints are those having a casein, soya bean protein, or similar protein base and containing clays as a filler. Also, a paint having an unmodified rosin as its base is suitable. Obviously, if the protective backing is composed of more than one layer, only one of the layers need exhibit little adhesiveness as described. Preferably the external layer is the one chosen to have the low adhesiveness so that the entire laminated material pulls away from the adhesive used in cementing the material to a floor or wall. However, the layer in contact with the fibrous layer may be the one chosen to have low adhesiveness or if more than two layers constitute the backing, one or more of the internal layers may be formed of the low strength adhesive coating material.

The indentations or holes may be impressed into the flooring material by providing one of a pair of calendering rolls with spines of the proper size and of the proper number per square foot of area and then passing the flooring material continuously between these rolls with the backing layer toward the spined roll. Of course, the nip between the rolls should be adjusted so that the spines do not go clear through the material and preferably stop within the felt or fibrous base.

Any adhesives may be used for attaching the new building material to floors or walls. Examples of such adhesives are any glue or dextrine paste as well as the linoleum paste commonly used which comprises a sulfite liquor and clay.

The thicknesses of the several layers of the material as actually made are not exactly represented in the drawing in view of the fact that the thickness of the protective backing coating ordinarily is only about one tenth that of the fibrous layer. If the decorative layer is linoleum its thickness is roughly of the same magnitude as the fibrous layer, whereas if it is a paint, it is comparable with the backing in thickness.

In Figure 1 of the drawing, a perspective view of the material partially pulled away from a panel 2, upon which it has been cemented, is shown. Figure 2 shows a cross section of the same material, and in both figures the decorative layer 6 is represented as a linoleum composition, layer 5 represents the fibrous sheet, layers 3 and 4 represent the composite backing layer or coating, of which layer 3 has the slight adhesiveness inherent in the compositions mentioned above, and 7 indicates the indentations or holes through the backing. Figure 3 is an enlarged section of the structure taken across the line of rupture, and more clearly shows the rupture of the cement layer across the open ends of the backing layer shown at 9. This figure also shows the filling of the indentations with adhesive at 8 and the slight spreading of the adhesive in the fibrous layer at 10.

As stated already, the laminated material is readily removed by pulling and comes away as a unit, thereby exposing the cement layer, shown at 11 in Figure 3, on the flooring or wall panel so that the floor or wall may be cleaned of the cement merely by chemical or mechanical means. Preferably, a suitable solvent is used to remove the old adhesive.

While the invention has been disclosed in terms of specific examples employing certain

materials in differently stated proportions, the description is intended to be merely illustrative. It is obvious that various modifications may be made without departing from the spirit of the invention, and it is to be understood that the invention is limited only by the appended claims.

I claim:

1. A surface covering comprising a felted fibrous supporting layer, a decorative layer upon one face thereof, a backing coating upon the other face thereof, said coating having the characteristic of affording a low strength bond with an adhesive by which the covering is secured in use, the covering having perforations extending through said backing coating and into said felted fibrous supporting layer for providing a mechanical bond between said covering and said adhesive.

2. A surface covering comprising a felted fibrous supporting layer saturated with a water repellant substance, a decorative layer upon one face thereof, a backing coating upon the other face thereof, the exposed surface of said backing coating being of such character as to afford only a low strength bond with an adhesive by which the covering is secured in use, the covering having perforations extending through said backing coating and into said felted fibrous supporting layer for providing a mechanical bond between said covering and said adhesive.

3. A surface covering comprising an asphalt impregnated felt base, a decorative layer upon one face thereof, a backing coating upon the other face thereof comprising a dried, cold-water casein paint containing clay filler, the exposed surface of said backing coating being of such character as to afford a low strength bond with an adhesive by which the covering is secured in use, the covering having perforations extending through said backing coating and into said felt for providing a mechanical bond between said covering and said adhesive.

4. A building structure comprising a unitary surface covering including a felted fibrous supporting layer, a decorative layer upon one face thereof, a backing coating upon the other face thereof, the covering having perforations extending entirely through said backing coating and into said felted fibrous supporting layer, an adhesive joining said surface covering to a base and extending into said perforations to afford a mechanical bond between the adhesive and said covering, said backing coating having the characteristic of affording a low strength bond with said adhesive so that, upon stripping said covering from said base, rupture occurs at the backing coating.

5. A building structure comprising a unitary surface covering including an asphalt impregnated felt base, a decorative layer upon one face of the felt base, a backing coating upon the other face thereof, the covering having perforations extending entirely through said backing coating and into said felt, an adhesive joining said surface covering to a base and extending into said perforations, said adhesive having a low strength bond with said backing coating and adhering with a high strength bond to the felt at the perforations, the resistance to rupture of said adhesive layer adjacent said backing being less than the resistance to rupture of said felt.

6. A building structure comprising a unitary surface covering including a felted fibrous supporting layer, a decorative layer upon one face thereof, a backing coating upon the other face

thereof having a low strength bond with said fibrous supporting layer, the covering having perforations extending entirely through said backing coating and into said felted fibrous supporting layer, an adhesive joining said surface covering to a base and extending into said perforations to afford a mechanical bond between the adhesive and said covering, the bond of said backing coating with said felted fibrous supporting layer being weaker than the bond between said backing coating and the adhesive layer so that, upon stripping said covering from said base, rupture occurs between the backing coating and the felted fibrous supporting layer.

5 7. A surface covering comprising a felted fibrous body layer, and a backing coating upon one face thereof, said backing coating presenting an exposed surface substantially nonadhesive to an adhesive by which the covering is secured in use, the covering having perforations extending through said backing coating and into said felted fibrous supporting layer for providing a mechanical bond between said supporting layer and the adhesive.

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