

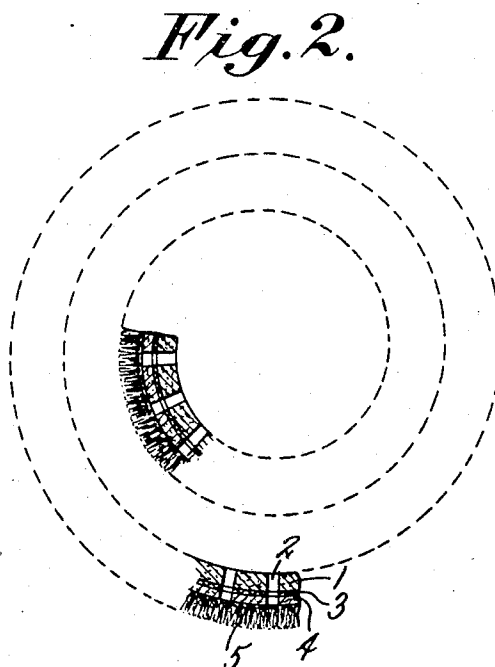
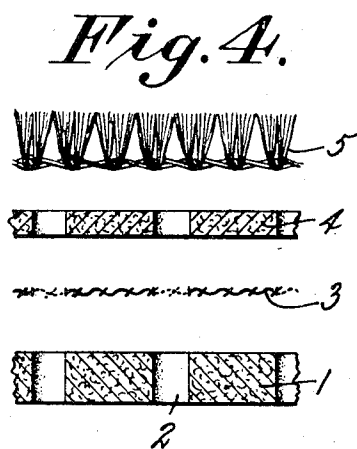
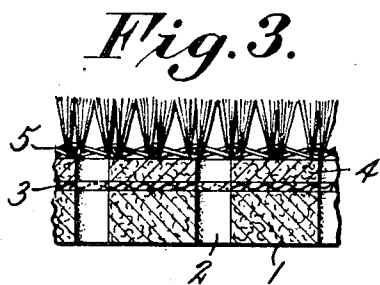
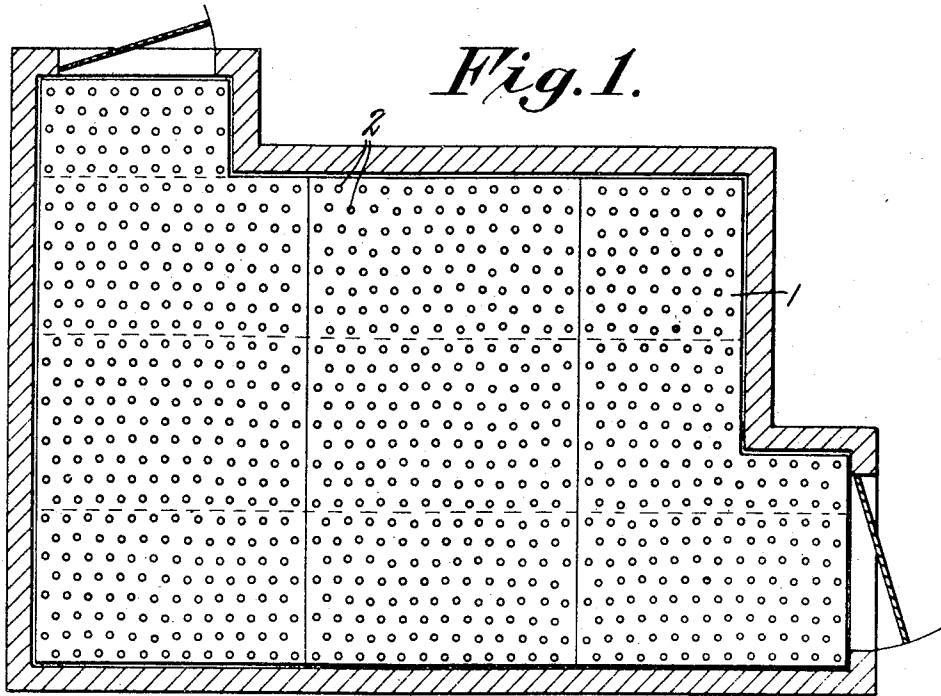
June 17, 1941.

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2,246,040

LAMINATED PILE FABRIC STRUCTURE

Filed Dec. 22, 1937



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2,246,040

LAMINATED PILE FABRIC STRUCTURE

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Application December 22, 1937, Serial No. 181,094

4 Claims. (Cl. 154-49)

My invention relates to coverings for floors, walls or other places where carpeting or similar material may be used.

The object of my invention is to provide a less costly covering for equivalent advantages in known products and to provide additional advantages, as will more fully appear from the following description taken in connection with the accompanying drawing forming part of this specification.

Fig. 1 is a bottom view of carpeting in a room;

Fig. 2 shows the carpeting rolled up;

Fig. 3 shows the elements of the carpeting assembled; and

Fig. 4 shows the elements disassembled.

Reference numeral 1 designates what may be termed, for convenience, a ground layer. This part is preferably made of short-hair batting of wool, cotton and/or animal fibers loosely matted into a sheet. This ground layer is extremely yieldable and is resilient. It is of the character of material much used for cushions under rugs. It may be of the thickness of, for example, one quarter of an inch. I perforate ground layer 1 with holes 2 which may be, for example one quarter of an inch in diameter and spaced, for example, an inch apart. Preferably the holes are staggered as shown. These air holes or pockets give added resiliency and serve to permit rolling the finished covering. In the use of my new covering for walls, these air holes have value for sound-deadening purposes.

Above ground layer 1 is a layer of cloth 3 preferably made from threads woven at right angles so as to provide an essentially non-stretchable reinforcing layer. Layer 3 is firmly attached to layer 1. Layer 1 may either be made separately or may be built up on the layer 3. Preferably the union of layers 1 and 3 is accomplished with sufficient sizing to make a good bond. A pyroxylin compound or a rubber compound may be used to provide the bond. The material of layer 1 is of a nature to be easily distorted and would not of itself maintain a desired shape. One purpose of layer 3 is to prevent creeping of layer 1 in the finished carpeting. Layer 3 is preferably close woven to prevent distortion diagonally as well as along the warp and weft. Also it is preferably made of a non-hygroscopic material such as a sized tight twisted cotton. The loose fibers of layers 1 may be made to intermesh with the threads of layer 3.

Above layer 3 is another layer 4, like layer 1, of loosely matted fibrous batting preferably

thinner than layer 1, say of a thickness on the order of an eighth of an inch or less. This layer serves several purposes. It provides a yieldable material between fabric layer 3 and the bottom of the upper or regular carpet layer 5 which permits relative movement of the carpet layer 5 and reinforcing layer 3 while at the same time affording resiliency to walking on the carpet ensemble. Also it constitutes an improved permanent union between the layers 3 and 5. If layers 3 and 5 were immediately adjacent each other with only cement or size between them, they would not stick together well because two woven surfaces adjacent each other present only points or humps of contact which present poor surfaces for adhesion by glue or cement. An intermediate layer 4 gives a better contact of surfaces because the loose fibers can work in between the threads of the fabric and can conform to the many mounds of the fabric.

Layer 4 may be fabricated separately and glued to layer 3 but I prefer to form layer 4 by building it up on layer 3 as by spraying a mixture of fibers and size on layer 3 either before or after layers 1 and 3 have been joined.

Preferably holes 2 are carried through layers 1, 3 and 4. This may be accomplished by punching the holes after the combination of layers 1, 3 and 4 has been made up. The material removed to form the holes is not wasted since it may be used to make up more material of the character of layers 1 and 3.

On top of layer 4 is secured the carpeting 5 which may be of regular form made in the usual manner by U-shaped pile tufts held by warps and wefts of a woven backing.

In laying strip carpeting in accordance with my invention, the carpet layer receives the carpeting 5 and the assembly 1, 3, 4 in strips which may come rolled. He first lays the assembly 1, 3, 4 in closely adjacent strips cut to conform to the space to be carpeted. The edges are butted, thus avoiding any overlaps. Preferably the edges of the butt joints run angularly to the direction in which the top carpeting is to be laid. When the assembly 1, 3, 4 is laid (it may or may not be cemented to the floor), the upper surface is sprayed or otherwise treated with size, cement or glue. This may be done in sections for facility in working. The top carpeting is now laid with seams in butt relation, the strips of top carpeting running angularly to the strip of the under-pieces.

When this is completed, the entirety is a unit, so knitted together that it may be removed as a

unit. It may be rolled, preferably with the face of the top carpeting outward. The holes 2 provide compressibility of the underlayers. It will be seen that I have placed the reinforcing layer 3 as near as possible to the neutral axis, with reference to bending on rolling. The backing of the top carpet section is not stretched materially, if at all, in the rolling operation. Due to holes 2, and the batting layers on each side of layer 3, this layer 3 can buckle if necessary to prevent undue stress in the top carpet backing when rolled.

When laid on the floor, my carpet ensemble provides a highly yieldable carpeting which is of uniform thickness everywhere. It needs no binding at the edges nor at the seams. It provides a so-called seamless carpeting in that the seams are invisible. It avoids the usual inconvenience of a loose unravelling rug cushion. It provides a non-slip under surface. For this purpose, if desired, the underside may be sprayed with latex or otherwise rubber coated.

It can be laid more easily and more economically than present commercial carpeting. It permits cutting the carpeting to obtain any desired shapes without restriction to the seam lines. The cementing of the parts and the character of the parts prevents unravelling regardless of how the carpeting is cut. It permits the use of cheaper carpeting to give the feel and appearance of costly carpeting. It permits the use of lower pile carpeting for a given resiliency, which is an advantage in use as well as economy. It permits the making of special shapes of carpeting with patterns and designs which can readily be made up at the mill and shipped in rolled form. Also, if a part wears, it can be more readily replaced with greater accuracy of matching because it is possible to match the pattern, pile upturned.

In some cases, it may be desirable to cement the carpet assembly to the floor. Should it then be desirable at a later date to remove the carpeting, the assembly may be parted between layers. For example, the parts 3, 4 and 5 may be stripped as a unit from section 1. By stripping the carpet this way, it may be relaid easily by cementing a new section 1 to section 3 and cementing the assembly again to the floor.

For certain uses, it may be sufficient to use a single perforated layer of matted batting under the top carpeting but for heavy wear I prefer the multiple layer construction above described in detail.

It will be understood that various variations may be made within the spirit and scope of the invention.

What I claim is:

1. A built-up floor covering comprising a relatively thick perforated ground piece of yieldable batting, a perforated reinforcing coarse cloth layer cemented to said ground piece, a relatively thin layer of loose yieldable perforated batting

adhesively secured to the upper side of said cloth layer, said perforations being in alignment, and a pile carpeting piece adhesively secured to said relatively thin batting layer, said perforations being approximately one-quarter of an inch in transverse dimension and occurring at approximately one inch intervals.

2. A built-up laminated carpet-like covering comprising pile fabric and a multiply backing therefor, said backing comprising a relatively thick and loosely packed padding forming a ground piece, a thinner upper layer of loosely packed padding adhesively united to said pile fabric, an intermediate fabric adhesively united to and positioned between said upper and lower padding layers, said intermediate fabric being close woven in a manner to prevent distortion of said backing diagonally as well as laterally and longitudinally, said backing being provided with perforations extending therethrough, said perforations being of sufficient width and spaced at intervals of sufficient frequency to reduce the stretching of said backing when said covering is rolled.

3. A built-up laminated carpet-like covering comprising pile fabric and a multiply backing therefor, said backing comprising a relatively thick and loosely packed padding forming a ground piece, a thinner upper layer of loosely packed padding adhesively united to said pile fabric, an intermediate closed mesh fabric adhesively united to and positioned between said upper and lower padding layers, said intermediate fabric being close woven in a manner to prevent distortion of said backing diagonally as well as laterally and longitudinally, said intermediate fabric being woven of material having the characteristics of tight twisted non-hydroscopic cotton, said backing being provided with perforations extending therethrough, said perforations being of sufficient width and spaced at intervals of sufficient frequency to reduce the stretching of said backing when said covering is rolled.

4. A laminated carpet-like covering comprising pile fabric and a multiply backing therefor, said backing comprising a relatively thick and loosely packed padding forming a ground piece, a thinner upper layer of loosely packed padding united to said pile fabric, an intermediate fabric united to and positioned between said upper and lower padding layers, said intermediate fabric being close woven in a manner to prevent distortion of said covering diagonally as well as laterally and longitudinally, said backing being provided with perforations extending therethrough, said perforations being of sufficient width and spaced at intervals of sufficient frequency to reduce the stretching of said backing when said covering is rolled and to expedite the rolling of said covering.

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