Jan. 26, 1932. P. H. CHANCE 1,842,746

CARPETING

Filed Aug. 14, 1929

Fig. 1.

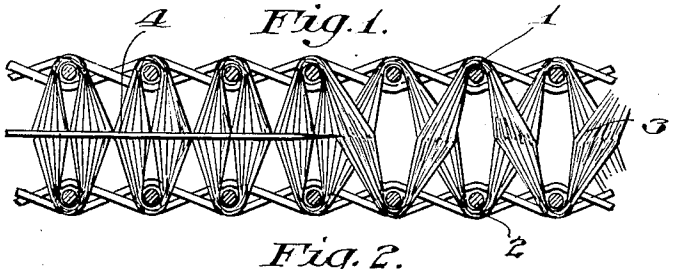


Fig. 2.

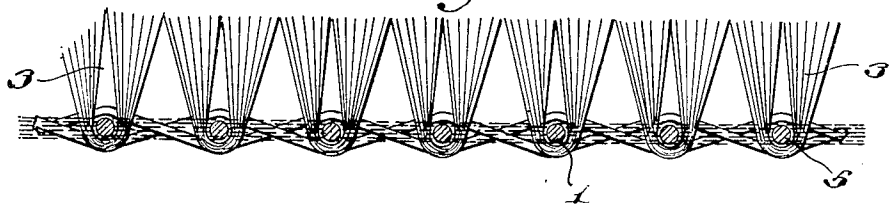


Fig. 3.

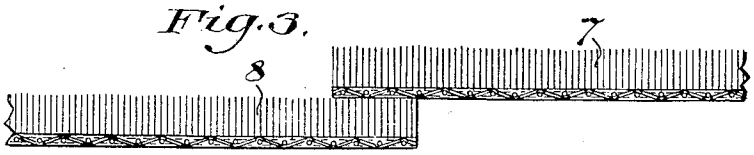


Fig. 4

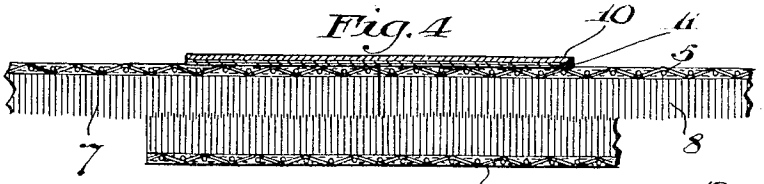


Fig. 5.

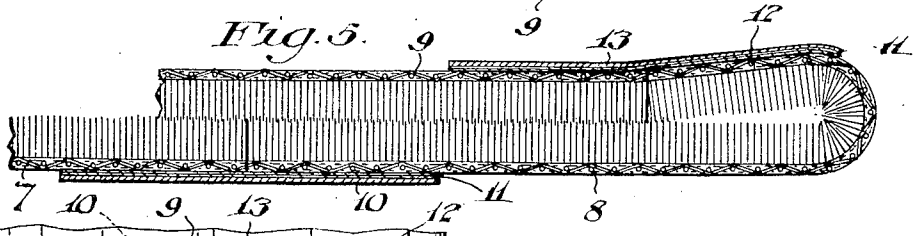
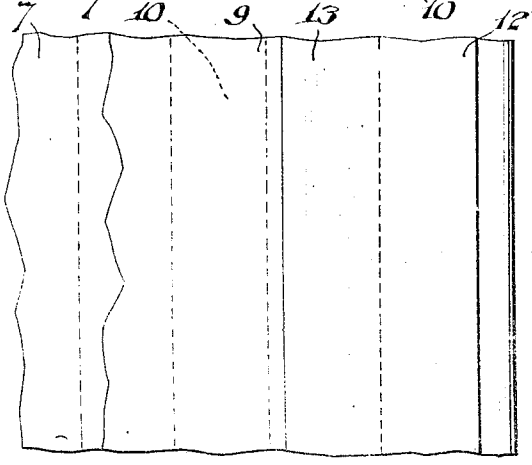


Fig. 6.



INVENTOR.

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BY

ATTORNEY.

Patented Jan. 26, 1932 1,842,746

UNITED STATES PATENT OFFICE

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CARPETING

Application filed August 14, 1929. Serial No. 385,920.

My invention is designed to provide a pile fabric floor covering having the seamless appearance of a broad loom carpet woven the maximum width of the covered area, but which is, in fact, built up from narrower widths or laps so constructed and connected as to provide non-raveling joints concealed by the maintenance of a pile density at the joints so similar to the remainder of the surface as to be indistinguishable as a joint. My improvements obviate the need for weaving or carrying in stock carpets of different widths; permit the utilization of ends or cut out pieces which would otherwise go to waste; and areas of any size may be carpeted as by a homogeneous covering from strips of standard width. My improvements further minimize the stretching and movement of the floor covering under the impact of footfalls and thus decrease wear on the backing fabric and the tendency of the joints to pull apart, consequently the fabric backing can be woven lighter and more pliable than usual carpet backings and suitable for production on the double plush loom.

My improvements further permit the economical weaving of carpeting having such density and length of pile as to greatly decrease the wear on the backing fabric, and also eliminate seepage of dust or moisture through the carpet either at or intermediate the seams.

In the preferred practice of my invention, strips of pile fabric having a water insoluble coating preventing shedding of the pile or raveling of the backing are joined along matched edges having pile of uniform density extending thereto, and are held in place by an adherent strip along the backing and overlapping the joint.

By my improvements, attractive, durable and economical floor coverings may be made rapidly upon a double shuttle loom forming a plurality of spaced backings united by pile warps which are split to form a plurality of fabrics. After the impregnation of the fabric backings with a coating which anchors the pile warps, reenforces the fabric, and prevents raveling or sliding of the fabric, the edges of the fabrics are matched and united. The matching of the edges of the joined fabrics may be effected by laying the edges to be joined in lapped relation and simultaneously cutting them by the same cutter, or the fabrics may be separately trimmed to a straight edge, but in either case it is desirable that the edge intersect a fabric section of normal pile density and remove the selvage and any adjacent sparsely tufted area so that there is no line or area of demarcation in the pile adjacent to the edge.

The fabrics with the matched edges in abutting relation are preferably united while frictionally held against sliding displacement by pressing upon the backings a fabric strip or tape having thereon an adhesive coating, such as an aqueous dispersion of rubber cement, solidifiable into an insoluble binder. Such coating permeates the interstices and pores of the fibres and may form a continuous film with the coating on the pile fabrics, or, if such pile fabrics are uncoated, will permeate the interstices and pores of the fibres on the back of the pile fabric. Carpets or rugs so formed show no seams or lines of demarcation between the laps from which they are made.

Fig. 1 is a diagrammatic sectional view illustrating the splitting of a double plush fabric into a plurality of cut pile carpets; Fig. 2 is a diagrammatic view of a plush carpet having its backing impregnated with a water insoluble coating; Fig. 3 is a diagrammatic sectional view illustrating a convenient method of cutting plush carpet laps to provide matched edges; Fig. 4 is a diagrammatic sectional view illustrating a preferred step in the application of a uniting strip to the edges of initial laps of plush carpet; Fig. 5 is a diagrammatic sectional view illustrating a step in the uniting of a subsequent lap to previously united laps, and Fig. 6 is a top plan view of the layout illustrated in Fig. 5.

As illustrated in the drawings, a double pile fabric may be woven upon a usual type of plush loom, with backings 1 and 2 united by pile warps 3 which are split by a cutter 4 to separate the material into a plurality of pile fabrics. Such pile fabrics may be, and preferably are, so woven that each weft thread has loose pile warps looped thereover

to give close coverage, but the fabric is so lightly beaten up that the number of weft threads is subnormal and insufficient to hold the pile warps against displacement under conditions of ordinary use for which the fabric is intended.

The pile warps of fabrics so loosely woven may be firmly anchored to the backing and shedding thereof and raveling of cut edges of the fabric prevented by a coating 5 solidifiable into a water insoluble film, impervious to dust and dampness, such as is formed by coating the backing with an uncoagulated aqueous dispersion of rubber containing a vulcanizer and preferably an accelerator. The coating is coagulated either by evaporation at normal temperature or heating to such temperature as may be necessary to effect vulcanization and coagulation; the degree of heat required being dependent upon the amount and character of the vulcanizer and accelerator used.

In carpeting an area, carpet strips so formed and preferably of uniform widths are cut transversely into laps of suitable lengths which may have their longitudinal edges matched by separate cutting to a straight line, as for instance along a warp thread, or they may be overlapped as illustrated in Fig. 3 and simultaneously cut by a cutter to form matched edges which may be either straight or indented. The cut is made a sufficient distance from the selvage of the fabric to provide along the lap edges a pile density similar to the pile density of the remainder of the fabric and the shedding of the edge pile or raveling of the fabric is prevented by the coating on the back of the fabric. When the matched edges are placed in juxtaposed relation, the uniform densities of the pile extending to the very edges of the fabrics conceal the presence of a joint. The laps are preferably held against displacement by an adhesive strip along the backing covering the joint.

To facilitate the application of the adhesive strip and prevent the displacement of the matched edges during the application of such strip, the pile faces of the initial laps 7 and 8 to be united may be laid upon the pile face of the fabric 9 with the matched edges in desired juxtaposed relation. This bottom pile fabric 9 upon which the laps to be united are laid may be a lap to be subsequently incorporated in the carpeting. The embedding of the pile face of the bottom lap and the faces of the laps inverted thereon prevents any displacement of the edges of the latter laps while such edges are being united by a strip or tape 10 having thereon an adhesive 11. The adhesive is preferably such as will unite firmly and form a continuous film with the coating 5, and I have found cements composed of aqueous dispersions of rubber satisfactory for the purpose. If necessary or desired, the adhesion of the uniting strip may be facilitated or increased by passing a roller over the joint or passing the united fabrics over an edge, between rollers or the like.

When the initially united laps 7 and 8 have been secured together, they are turned face up and suitably positioned upon the floor and may now be used to provide a non-slipping surface upon which the free edge 12 of the outer lap 8 is turned and held. A free lap, such as the lap 9 or a subsequently cut lap having an edge matching the edge of the turned over portion 12, is laid upon the face of the previously laid fabric in juxtaposition to the turned over portion 12 and an adhesive strip 13 is applied to unite the abutting edges. When the adhesive uniting the strip 13 with the pile fabrics 8 and 9 are sufficiently set, the parts 12 and 9 are turned back so that their backs lie upon the floor and their pile faces up and the free outer edge of the strip 9 is then turned over upon itself for the attachment thereto of a further lap or strip, and so on until the whole floor is covered.

Should it be necessary to piece out the length of a lap or strip, this may be done with equal facility by cutting through an area of normal pile density and bending over the end of a strip upon itself and uniting thereto a further lap section of sufficient length to fill the vacant area.

The completed carpet may have numerous joints therein both longitudinally and transversely, or at angles to permit the use of pieces that would otherwise be wasted as scrap, but the effect of the completed carpeting is that of a unitary structure woven integrally upon a broad loom without joints or seams. The non-slippage of the coating material on the floor prevents strain upon the joints, since footsteps do not tend to cause the stretching or movement of fabric on the floor, and the normal pile density and absence of any seam bending or folding at the joints prevents wear upon the backing at the joints and conceals the presence thereof.

If desired, the pile may be sheared a trifle shorter at the sections corresponding with the width of the adhesive strip so as to accommodate any thickness of such strip and make the surface pile extend to a uniform level. Ordinarily, however, this is unnecessary as the thickness of the attached strip is ordinarily insignificant and has no perceptible effect upon the level of the pile surface. The pile surface may also be ornamented by printing, cutting, singing, and treatment or the like, and the complementary parts of figures so formed matched in the juxtaposed laps.

Having described my invention, I claim:

1. The method of carpeting which consists in inverting in juxtaposed relation the unsewn edges of pile fabrics to be united upon a pile fabric surface, said fabrics having an

insoluble coating covering the backs thereof, and securing the said fabrics together while substantially flat by a strip adhering to said coating.

2. The method of carpeting which consists in folding a lap of pile fabric upon itself, positioning a lap of pile fabric along the edge of the folded over section of the lap first named, and uniting the edges of the folded section and the lap in juxtaposed relation thereto.

3. The method of carpeting which consists of positioning pile faces of pile fabrics upon a pile surface, securing an adherent strip to the backings of the first named pile fabrics, folding an edge of one of said first named pile fabrics upon itself so that the pile faces of the folded lap contact, placing a pile fabric along the edge of the folded section of the folded lap, and securing the edges of said last named fabric and folded lap by an adherent strip.

4. The method of carpeting which comprises shearing pile fabrics to form along the edge thereof pile sections of lower height than the remainder of the pile sections and uniting such pile fabrics by an adherent strip substantially conforming with the lower pile sections and thereby elevating such lower pile sections to the height of the remaining pile sections.

5. A floor covering comprising a pile fabric having pile yarn looped over each weft thread and too loosely beaten up for normal use, a water insoluble coating on the back of said pile fabric lap and anchoring said pile loops to the backing, said pile fabric laps having matched edges and an adherent strip uniting adjacent laps and having thereon an adherent coating forming with the coating on said laps a continuous film.

6. A floor covering or the like comprising strips of fabric having a pile face and a backing with a solidified coating thereon insoluble under normal conditions of use and cut matching edges forming an unsewn joint between said strips, said coating preventing raveling of said strips along the cut edges thereof, and a fabric adhesively connected with and overlapping the backs of said strips adjacent to said joint and securing the cut edges so abutted that the pile obscures the joint.

7. The method of carpeting which comprises coating the backing of a fabric having a pile face with a coating, solidifying said coating to a form insoluble under normal conditions of use, cutting said fabric to form cut edges adapted to match one another along a joint formed by strips of said fabric, said solidified coating preventing raveling along the cut edges, abutting the cut matching edges of a plurality of strips of said fabric to form an unsewn joint obscured by the pile, and adhesively securing a joining strip to the backs of said abutting strips while the unsewn edges thereof are in matched relation and thereby covering said joint.

In testimony whereof I have hereunto set my hand this 31st day of July, 1929.

PERCIVAL H. CHANCE.