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F. W. CLARK
CARPET MATERIAL

1,947,152

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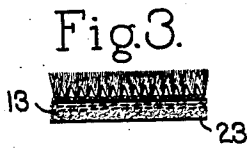
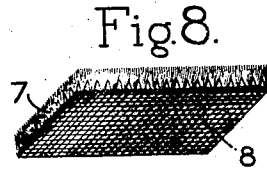
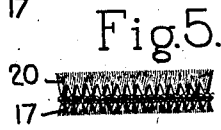
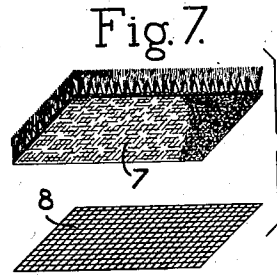
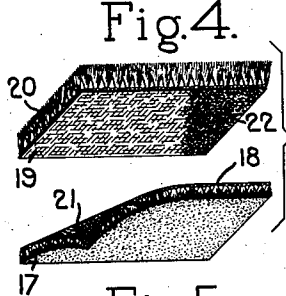
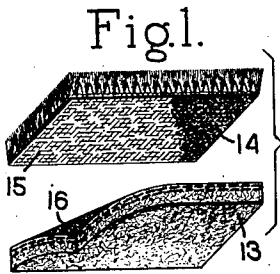
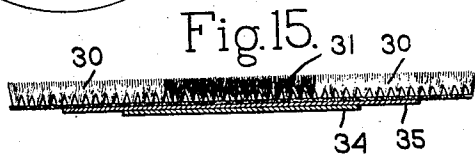
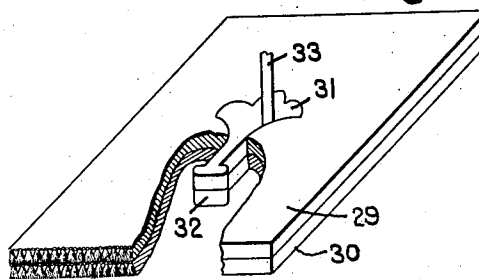
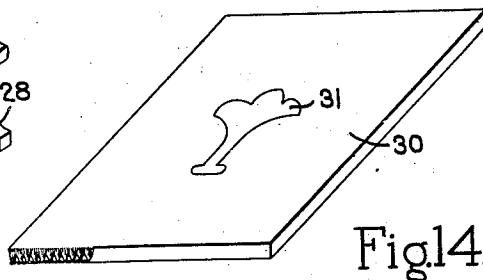
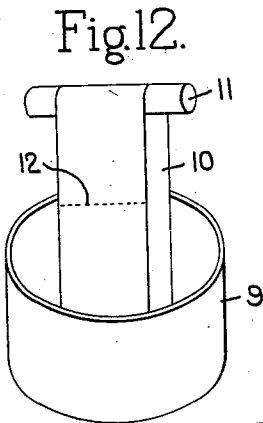
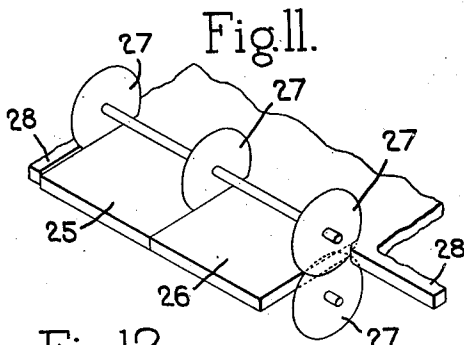
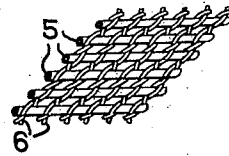


Fig.9.



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UNITED STATES PATENT OFFICE

1,947,152

CARPET MATERIAL

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Continuation of applications Serial Nos. 491,639, October 27, 1930, 571,669, October 28, 1931, and 601,510, March 28, 1932. This application January 2, 1934. Serial No. 704,919

24 Claims. (Cl. 154-49)

This invention relates to a carpet material and this application is a continuation of and includes the subject matter of prior applications Serial No. 491,639, filed October 27, 1930, Serial No. 571,669, filed October 28, 1931, and Serial No. 601,510, filed March 28, 1932.

The invention has for its object to produce a carpet material, which is suitable and desirable for use as carpets or rugs, from a pile fabric which has a ground too flimsy itself for a carpet back by combining with the said ground a second layer of fabric by means of an intermediate layer of flexible adhesive binding material which penetrates the adjacent surfaces of, and adhesively secures together, the ground of this pile fabric and the second fabric so that the ground of the pile fabric, the flexible adhesive binding material and the second fabric form a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back.

The invention has for its object to produce such a carpet material in which the second layer of fabric is an open mesh fabric, such as a woven netting, which is of sufficient thickness to form with the ground of the pile fabric and with the flexible adhesive binding material the required unitary body which characterizes the invention, that is, a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back. In this form of the invention the composite unitary body of the carpet material preferably has its exposed surface of the same general character and appearance as that presented by ordinary woven carpet.

The invention has for its further object to produce a further form of the carpet material in which the second layer of fabric is in the form of a relatively thick resilient material, such as felt, which when unitarily combined with the ground of the pile fabric and the flexible adhesive binding material not only presents a carpet material having a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back but which in addition presents the qualities of a resilient cushion lining rendering unnecessary a separate cushion lining when the carpet or rug is laid.

The invention has for its further object to produce a further form of the carpet material in which the second layer of fabric is in the form of a layer of short pile fabric having its ground facing the ground of the main pile fabric, which when unitarily combined with the

ground of the pile fabric and the flexible adhesive binding material not only presents a carpet material having a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back but which in addition presents the qualities of a resilient cushion lining.

The invention has for its further object to produce such a carpet material in any of the forms embodying the invention in which the fabric forming the face of the carpet is a V-weave warp pile fabric of that type in which the pile tufts are insecurely supported in the ground, as disclosed in the patent to Nutter, No. 1,778,196, January 17, 1929, and in which the pile tufts are firmly and permanently held in place in the ground by means of the layer of flexible adhesive binding material and the second layer of fabric forming with the ground of the pile fabric the unitary body of the carpet material.

The invention has for its object to produce a novel form of carpet material enabling pile fabrics of the type not of themselves available for carpet material to be made available for such material, thus materially lessening the cost of manufacture.

The invention has for its further object to provide a carpet material unitarily combining in itself a non-slipping surface, preventing the material, particularly when used as a rug, from slipping on the floor and thus rendering unnecessary any separate, independent, non-slipping material.

The invention has for its further object to produce such a carpet material in its preferred form in which the intermediate layer of flexible, adhesive binding material is a pyroxylin compound eliminating any danger from spontaneous combustion when the carpet material is rolled up or stored away, causing the carpet material when in use to present no undesirable odor, and insuring that the carpet material shall hold its shape without crinkling or substantial stretching and be permanent and durable.

These and other objects and features of the invention will appear more fully from the accompanying description and drawing and will be particularly pointed out in the claims.

In the drawing:

Fig. 1 is a view in perspective illustrating the pile fabric and a felt form of resilient cushion lining in juxtaposition for uniting.

Fig. 2 is a view in longitudinal cross section

of the combined fabric shown in Fig. 1 when completed.

Fig. 3 is a view similar to Fig. 2 having in addition a non-slipping surface.

Fig. 4 is a view similar to Fig. 1 illustrating a short pile fabric form of resilient cushion lining.

Fig. 5 is a view in longitudinal cross section of the combined fabric shown in Fig. 4 when completed.

Fig. 6 is a view similar to Fig. 5 having in addition a non-slipping surface.

Fig. 7 is a view similar to Fig. 1 illustrating a woven netting form of the second layer of fabric.

Fig. 8 is a view in longitudinal cross section of the combined fabric shown in Fig. 7 when completed.

Fig. 9 is a perspective view showing a type of open mesh fabric employed in the form of carpet material shown in Figs. 7 and 8.

Fig. 10 is a view in longitudinal section of a preferred form of the pile fabric employed.

Fig. 11 is a perspective view showing the carpet material being cut into strip form.

Fig. 12 is a perspective view showing the pile fabric being piece-dyed, washed or otherwise treated.

Fig. 13 is a perspective view of a rug or piece of the carpet material having a contrasting insert of similar material.

Fig. 14 is a perspective view partially broken away illustrating a step in the operation of producing the article shown in Fig. 13.

Fig. 15 is a view in transverse cross section and on a larger scale of a portion of the article shown in Fig. 13.

It will be understood that the figures of drawing are more or less diagrammatic with various features exaggerated or changed in proportion in order to illustrate the principles of the invention.

Pile fabric suitable for use as carpet material must have a relatively rigid, heavy, and thick ground to form the back required in order that the carpet may be properly laid, maintain its position on the floor under the usage to which it is subjected, and present the required wearing qualities. As a result, the manufacture of pile carpet material has been a specialized industry in which the material has been woven initially with the required heavy, stiff, and rigid back. Special types of looms, machinery, and processes are required for thus making and finishing such carpet material as is well known to those skilled in the art. When pile fabric of the upholstery type is coated on the back with a heavy adhesive binding material such as rubber, the resultant material has neither the appearance nor the feel of regular carpet.

This invention enables a carpet material to be produced which has the appearance and feel of regular woven carpet and which is superior to regular woven carpet. The invention makes use of an ordinary pile fabric of the general type employed for upholstery purposes and in which the ground of the fabric is too flimsy to form a carpet back. Such a pile fabric is extensively manufactured by well-known machinery and processes. It is readily made with any height or length of pile desired and of any desired quality and with any desired number of pile ends per unit of area. One form of such pile fabric extensively manufactured and available for use in this invention is that in which

the ground is formed of cotton warps and cotton filling, while the pile is formed from warps made wholly or in part of mohair. This type of fabric has long been extensively used for upholstery material and presents in the pile face an exceedingly durable material capable of withstanding long wear and hard usage. A desirable type of pile fabric is that disclosed in the patent to Nutter, No. 1,778,196, January 17, 1929, in which the pile is formed from the warp and is of the V-weave type but with the omission of the usual stuffer warps. One form of such weave is shown diagrammatically in Fig. 10 of the drawing. The warp forming the pile is here shown in the form of V's 1 looped around alternate wefts 2, while the usual ground warps 3 and 4 are interwoven with the wefts. Preferably the ground warps and wefts are made heavier and the number of picks per inch less than in ordinary upholstery plush. Preferably also the pile warp is made much heavier either by using heavier yarn or by weaving several ends as one. The result is that the pile face is rich and solid but the ground formed by the interweaving of the ground warps and wefts, together with the pile, must not be so heavy as to prevent the adhesive binding material employed from penetrating the ground. With this type of V-weave warp pile fabric woven without stuffer warps, the adhesive binding material as disclosed in the aforesaid Nutter patent functions to lock the V's of the pile firmly into the ground and prevent the V's from being pushed out or displaced. Other types of pile fabric having the characteristic flimsy back and in which the pile and ground are otherwise formed are available for use in this invention in its broader aspects. Preferably the pile fabric is woven double in the usual and familiar manner and is then split apart so that two pieces are formed simultaneously.

The essential characteristic of the pile fabric employed in this invention is that it is of the general upholstery type, that is, a pile fabric which of itself is unsuitable for carpet material. It is characterized by a ground which is too flimsy for a carpet back. Such a ground is sufficiently pliable to enable the pile fabric to pass through dyeing, washing or similar processes like cloth. This does not mean that the pile fabric must be dyed, washed or similarly treated after it is woven, but that it is of a character which could be put through these processes in the same way that cloth is put through. Thus the pile fabric is sharply distinguished from the pile carpets produced in the regular ordinary methods of carpet manufacture. Even when the pile fabric of the V-weave type referred to and desirably employed in this invention is coated on the back with sufficient flexible adhesive binding material to hold the V tufts in place, it is even then still too flimsy to be itself useful as carpet and is capable of being passed through any usual dyeing, washing, or similar finishing processes like cloth and without the loosening of the pile from the ground.

Among the advantages of the characteristic pile fabric employed in producing the carpet material of this invention are:

It may be produced, preferably by weaving, with the pile in loop or cut form of any desired length and of any suitable fibre.

It may thus be produced in a wide variety of patterns and effects, as with the pile partially

cut and partially uncut, with the pile partially removed by chemical or other processes, with the pile dyed or printed, with the pile embossed, with the pile determined by Jacquard or other pattern mechanism and with other well-known methods or in plain colors all as is well known and familiar to the art of manufacture of upholstery plush or pile fabrics.

Such pile fabrics may as usual be stock dyed or piece dyed, or partially stock dyed and subsequently piece dyed, and when piece dyed, this fabric, owing to its relatively flimsy ground, is sufficiently pliable to enable it to be treated like cloth when passed through the various dyeing, washing and similar finishing processes. That is, this pile fabric is handled in any such processes just as upholstery pile fabric is handled enabling these various processes to be carried on economically and effectively.

The invention thus renders available for carpet material pile fabrics woven, dyed, and finished by the usual processes and machinery employed in the manufacture of upholstery pile fabrics.

After the pile fabric has thus been produced, the present invention then takes this pile fabric with its ground essentially too flimsy and thus unsuitable for a carpet back and transforms this pile fabric into carpet material by combining therewith a second layer of fabric and an intermediate layer of flexible adhesive binding material penetrating the adjacent surfaces of, and adhesively securing together, the ground of the pile fabric and the second fabric so as to form therewith a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back.

The second layer of fabric may take various forms according to the final result desired. In certain forms of the invention it is of such a character as to present the additional function of a resilient cushion lining and in other forms it is of such a character as to cause the completed carpet material to present in addition an appearance and feel corresponding to that of a regular woven carpet.

The latter form is illustrated in Figs. 7, 8 and 9 wherein the second layer of fabric is a layer of open mesh fabric such as woven netting. This netting may be of any suitable fibre but is preferably of cotton with a fairly coarse mesh and of substantial thickness. The netting known as "breaker strip" commonly used in tire manufacture has been found particularly suitable. This "breaker strip" illustrated in Fig. 9 is a coarse netting woven from cotton yarns in which the weft 5 is a coarse yarn while the warps 6 are relatively fine, and in which the weave is of the leno type. This netting must have the thickness and strength requisite to form with the binding material and the ground of the pile fabric a unitary body of sufficient thickness and of sufficient stiffness or rigidity transversely or in the direction of the plane of the fabric to present the qualities required for a carpet back.

The flexible adhesive binding material employed for adhesively securing the ground of the pile fabric and the woven netting together to form the required unitary body may be such as is commonly employed in the manufacture of laminated fabrics. Either a pyroxylin compound or a rubber compound may be employed and both have common advantages and each have certain specific advantages. In both cases the reticulated character of the netting mate-

rial aids in the manufacture of the carpet material by permitting the ready evaporation of the solvent or liquid component of the binding material. When volatile solvents are employed, as in the case of pyroxylin and some rubber compounds, or when other liquids, such as water in a natural or aqueous dispersion of rubber, are employed, these solvents or liquids readily evaporate or pass off owing to the open character of the netting, thus facilitating the manufacture and processes. The pyroxylin binding material is preferred because it eliminates any danger from spontaneous combustion when the carpet material is rolled up or stored away, is odorless after the solvent has evaporated, insures the carpet material holding its shape without wrinkling or substantial stretching, and is permanent and durable.

Various methods may be employed for manufacturing the carpet material of this invention. When the pile fabric is stock dyed and a pyroxylin adhesive binding material is employed, the procedure is preferably as follows:

The pile fabric is woven double in the usual manner. It is then split apart. Any necessary burling or mending is then done. The fabric is then sheared. The back of the ground is then coated with pyroxylin on a usual type of coating machine. A second coating of pyroxylin is then applied in a similar manner. A third coating of pyroxylin is then applied in a similar manner. The pile fabric thus coated is shown at 7 in Fig. 7 and while the third coating is still moist the uncoated open mesh fabric or netting 8 illustrated in Fig. 7 is pressed on to the coated back of the pile fabric. A dilute coating of pyroxylin is then applied over the open mesh fabric 8 united to the pile fabric 7, as shown in Fig. 8, and pressed in place, thus completing the carpet material. The result is that the adhesive pyroxylin binding material impregnates the ground of the pile fabric, thus firmly locking the pile tufts or V's into the ground; it extends through the meshes of the open mesh fabric; it covers both faces of the open mesh fabric, and it extends between the open mesh fabric and the ground of the pile fabric. Thus the ground of the pile fabric, the flexible pyroxylin binding material, and the layer of open mesh fabric together form a composite body having sufficient thickness and transverse stiffness to give the desired qualities required for a carpet back.

The size of the mesh and the quality of the yarns in the open mesh fabric are preferably varied in coarseness and fineness to correspond with the coarseness or fineness of the pile face, with the result that the back of the carpet material has the appearance and the feel corresponding to that of a regular woven carpet.

If the pile fabric forming the carpet material is to be piece dyed instead of stock dyed, the preferable procedure is as already described, excepting that after the burling and mending, the pile fabric is coated with the pyroxylin binding material on a coating machine and is then scoured, cross dyed, and sheared in the usual manner.

In Fig. 12, as illustrated diagrammatically, a tank or vat 9 and a strip 10 of the coated material running over a roller 11 and with its ends fastened together at 12 illustrates how a strip of this flimsy back upholstery type of pile fabric may be passed like cloth through a dyeing or

washing operation even after one coating of the binding material has been applied.

The second and third coatings of pyroxylin are then applied and the process completed in the manner hereinbefore set forth.

In another form of the invention the second layer of fabric employed in the production of the carpet material of this invention is also resilient in the direction of its thickness so that the unitary body of the completed carpet material presents the qualities required both for a carpet back and for a resilient cushion carpet lining. Such a construction is illustrated in Figs. 1 and 2 of the drawing wherein the second layer of fabric is shown as a felt material, and particularly that well-known type of felt fabric 13 made by needling or punching jute or similar fibre into one or more layers of coarsely woven fabric.

In the preferred method of manufacture of this form of the carpet material, the ground of the pile fabric and one surface of the felt or other similar material are each separately coated with the adhesive binding material and then the two are pressed together to form the unitary body. In Fig. 1, the binding material 14 is shown partially applied to the bottom 15 of the ground of the pile fabric and at 16 to the top of the felt 13. When pyroxylin is used as the flexible adhesive binding material, the said surfaces are preferably each coated with liquid pyroxylin and then the coatings are allowed to dry. A light coating of liquid pyroxylin is then applied to one of these fabrics and the coated surfaces are brought into juxtaposition and the two fabrics fed between pressure rolls, thus producing the completed carpet material shown in Fig. 2. This material not only embodies the broad invention already described but in addition presents a material having unitarily embodied therein a resilient cushion lining rendering unnecessary a separate cushion lining when the carpet or rug is laid.

A further form of the carpet material of this invention embodying the feature of the resilient cushion lining is illustrated in Figs. 4 and 5 of the drawing. In this construction a short pile fabric 17 woven by the methods usually employed in the manufacture of upholstery plush may be used and the ground 18 of this fabric adhesively secured to the ground 19 of the main pile fabric 20 by an intermediate layer of one of the flexible adhesive binding materials. The binding material is shown at 21 on the upper surface of the pile fabric 17 and at 22 on the lower surface of the ground of the pile fabric 20. The completed fabric shown in Fig. 5 therefore presents the same general characteristics as that shown in Fig. 2.

When a rubber compound flexible adhesive binding material is employed, the processes of producing the various forms of the carpet material are carried on in a generally similar manner and with a generally similar result. Such binding material will be vulcanized by any of the usual methods before or after its application according to the type employed.

With a rubber compound binding material, the back or exposed surface also has a desirable non-slipping quality owing to the character of the binding material and this non-slipping quality is particularly inherent in the type of material shown in Fig. 8 because of the rough surface formed by the open mesh fabric.

Furthermore, in any case the completed car-

pet material may be rendered non-slipping by applying to the back surface thereof a coating of rubber compound. Such a coating is shown in Fig. 3 at 23 applied to the carpet material illustrated in Fig. 2 and at 24 in Fig. 6 applied to the carpet material illustrated in Fig. 6.

The carpet material of this invention in its various forms has not only the advantages already pointed out, but owing to the presence of the binding material, the pile yarn, whether cut or uncut or whatever weave may be employed, is permanently and firmly secured in the ground and dust and dirt are prevented from passing through the material. Furthermore, it is highly waterproof, highly resistant to damage by moths, readily swept and vacuum-cleaned because dust and dirt only collect in the pile surface, and it is non-raveling so that it may be cut to fit any desired configuration or so that two pieces may abut with a neat, invisible joint and be permanently secured together.

When the carpet material of this invention is cut through the pile area, the adhesive binding material holds the yarns, threads or fibres in place and consequently raveling at the cut edge does not occur. Preferably the second layer of fabric, particularly in the case of the open mesh fabric which forms an integral part of the carpet material is dyed or colored to correspond with the color of the ground of the pile fabric before being embodied in the carpet material so that when the edges are cut, the composite body of the carpet material presents a uniform appearance just as in the case of regular woven carpet. This non-raveling characteristic enables the carpet material to be cut in any direction and consequently the density or quality of the pile or other characteristics both of the face and of the back to be maintained up to the cut edge. This characteristic is utilized in this invention in two ways.

First, the carpet material may be furnished in strips of any desired length and any desired width with the strips presenting parallel cut edges perpendicular to the ground and separated by a distance substantially less than the woven pile width and with the warp extending longitudinally of the strip. This insures absolute accuracy in the width of the strips so that they may readily be fitted together throughout their length or any desired portion thereof and insures a uniform appearance throughout the face of a carpet or rug made up of a plurality of strips thus fitted together. In Fig. 11 is shown diagrammatically a sample form of apparatus for thus dividing a strip of the carpet material into a plurality of strips 25 and 26, each of which has its longitudinal edges cut perpendicular to the ground and in parallelism. Cooperating rotary shear blades 27 are shown for forming the cut edges. In the illustration, as the strip of carpet material is fed through the rotary shears, the selvage portions 28, which may therefore be formed without particular care, are entirely removed and the strip of material is divided into two finished strips 25 and 26. But, by omitting the central rotary shears, only the selvage strips 28 may be removed, and by increasing the number of pairs of rotary shears any desired number of finished strips may be formed. The carpet material is therefore preferably furnished to the trade for use with its longitudinal edges which extend in the direction of the warps cut so that it is

ready for immediate use and in this there is a great practical advantage.

Second, a carpet, which term includes rugs, may be made up from the carpet material of this invention of a main section and a contrasting figure section in which the figure section is in the form of an insert. These inserts may take any desired form and may be multiplied and positioned anywhere as desired. In Figs. 13 and 14 an example of this feature in the type of carpet shown in Fig. 8 is illustrated, the insert being shown in the form of a fleur-de-lis. Two strips or pieces of the carpet material of this invention 29 and 30 of contrasting color are shown superimposed in Fig. 14 with inserts 31, 32, being cut simultaneously therefrom by a vertically reciprocating knife 33 and in such a manner that the cut edges are perpendicular to the ground. Then the insert from each strip is placed in the other, as shown, for example, in Fig. 13, where the insert 31 from the strip 29 is inserted in the strip 30. It will be seen that the peripheral edge of the insert abuts throughout the peripheral cut edge of the aperture in the main section.

The abutting cut edges of the carpet material of this invention, whether in strip form or in the insert form, are readily secured together and held in position in the manner employed in coated fabrics by securing with an adhesive binding material to the back of the carpet material a piece or strip of fabric. In order that the presence of this uniting strip may not be disclosed at the face of the carpet material, the edges of this uniting strip are feathered out or made thinner than the body in accordance with the principle of the invention disclosed in my Patent No. 1,917,430, granted July 11, 1933, and this feature is illustrated in Fig. 15, with the uniting strip exaggerated in thickness for purposes of illustration. Here is shown a portion of the main section 30 of the carpet material with the insert 31 and with the uniting strip composed of two layers, one of which, as 34, is much narrower than the other 35, and both of which extend over the central portion so that the edges of the uniting strip are formed by but one layer of fabric, while the body of the strip is formed of two layers and these two layers are arranged so as to extend over the joint or joints of the abutting cut edges of the carpet material. This uniting strip is preferably made of woven fabric and preferably of a netting such as marquisette and the adhesive binding material is preferably the same as that employed in the carpet material and thoroughly impregnates the uniting strip.

In the construction of the joint between the abutting cut edges of the carpet material, this invention presents two further specific features of great practical importance.

First, if the adhesive binding material employed in the ground of the carpet material, in the impregnation of the uniting strip and in the securing of the strip to the carpet material is the same throughout, then the union which takes place is that of cohesion. This result is particularly secured when the adhesive binding material employed is a pyroxylin compound. The ground of the carpet material and the uniting strip having been impregnated with the pyroxylin compound when it is desired to effect the joint, a pyroxylin compound cement is applied to either the back of the carpet material over the joint and at each side thereof or to the

uniting strip or to both before the uniting strip is pressed against the carpet material over the joint. Consequently cohesion takes place between this pyroxylin cement and the pyroxylin of the carpet material and also between the pyroxylin cement and the pyroxylin of the uniting strip, so that the union between the uniting strip and the carpet material is that of cohesion.

Second, when the pyroxylin compound cement is applied either to the carpet material over the joint or to the uniting strip or to both, a surplus is provided over the joint so that as pressure is applied either in applying cement to the back of the carpet material over the joint or in pressing the uniting strip in place, the cement is forced into the joint between the cut abutting edges of the carpet material and thus serves to cement or lock the abutting cut edges of the ground of the carpet material together along their cut surfaces. This is an important feature because a very strong union of the cut abutting edges of the carpet material is thus formed quite independently of the uniting strip itself. With the union thus formed, the ground of the carpet material at the joint is practically continuous throughout so that as the carpet is bent backward, the joint does not open. This construction, while preferably secured by cohesive action, may also be secured by the use of any form of adhesion when any suitable adhesive binding material is employed and forced during application in between the abutting cut edges of the carpet material.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is:

1. A carpet material comprising a layer of pile fabric having a ground too flimsy for a carpet back, a second layer of fabric, and an intermediate layer of flexible, adhesive binding material penetrating the adjacent surfaces of, and adhesively securing together, the ground of the pile fabric and the second fabric and forming therewith a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back.

2. A carpet material comprising a layer of pile fabric having a ground too flimsy for a carpet back, a second layer of fabric, and an intermediate layer of flexible, adhesive pyroxylin binding material penetrating the adjacent surfaces of, and adhesively securing together, the ground of the pile fabric and the second fabric and forming therewith a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back.

3. A carpet material comprising a layer of pile fabric having its ground too flimsy for a carpet back, a second layer of open mesh fabric and flexible adhesive binding material extending into the meshes of the second layer of fabric and between this fabric and the ground of the pile fabric and adhesively securing the two fabrics together, and in which the open mesh fabric is of sufficient thickness to form with the ground of the pile fabric and with the binding material a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back.

4. A carpet material comprising a layer of pile fabric having its ground too flimsy for a carpet back, a second layer of open mesh fabric and flexible adhesive pyroxylin binding material extending into the meshes of the second layer of fabric and between this fabric and the ground

of the pile fabric and adhesively securing the two fabrics together, and in which the open mesh fabric is of sufficient thickness to form with the ground of the pile fabric and with the binding material a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back.

5. A carpet material comprising a layer a V-weave warp pile fabric having its ground too flimsy for a carpet back, a second layer of open mesh fabric and flexible adhesive proxylon binding material penetrating the ground of the pile fabric sufficiently to hold the pile tufts firmly locked in the ground and extending into the meshes of the second layer of fabric and over both faces of the second layer of fabric and between this fabric and the ground of the pile fabric and adhesively securing the two fabrics together and in which the open mesh fabric is of sufficient thickness to form with the ground of the pile fabric and with the binding material a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back.

6. A carpet material having the construction defined in claim 3, in which the second layer or open mesh fabric corresponds in coarseness or fineness to the quality of the pile face thus to present in the finished material the appearance and feel of regular woven carpet back, and in which the said second layer of open mesh fabric corresponds in color to the ground of the pile fabric so as not to be noticeable at cut edges of the carpet material.

7. A carpet material having the construction defined in claim 4, in which the second layer of open mesh fabric corresponds in coarseness or fineness to the quality of the pile face thus to present in the finished material the appearance and feel of regular woven carpet back, and in which the said second layer of open mesh fabric corresponds in color to the ground of the pile fabric so as not to be noticeable at cut edges of the carpet material.

8. A carpet material comprising the construction defined in claim 5, in which the layer of pile fabric when coated with the flexible adhesive pyroxylin binding material on the back of the ground is sufficiently pliable to enable it to pass through dyeing, washing, or similar finishing processes like cloth without loosening of the pile from the ground.

9. A carpet material comprising a layer of pile fabric having its ground too flimsy for a carpet back but sufficiently pliable to enable the pile fabric to pass through dyeing, washing, or similar finishing processes like cloth, a layer of woven netting, and flexible adhesive pyroxylin binding material penetrating the ground of the pile fabric and the netting and extending into the meshes of the netting and extending between the netting and the ground of the pile fabric and adhesively securing the said ground and netting together, and in which the netting is of sufficient thickness to form with the ground of the pile fabric and with the binding material a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back.

10. A carpet material comprising a layer of pile fabric having its ground too flimsy for a carpet back but sufficiently pliable to enable the pile fabric to pass through dyeing, washing, or similar finishing processes like cloth, a layer of woven netting, and flexible adhesive rubber

compound binding material penetrating the ground of the pile fabric and the netting and extending into the meshes of the netting and extending between the netting and the ground of the pile fabric and adhesively securing the said ground and netting together, and in which the netting is of sufficient thickness to form with the ground of the pile fabric and with the binding material a unitary body of sufficient thickness and transverse stiffness to present the qualities required for a carpet back, and in which the carpet back presents a roughened non-slip surface.

11. A carpet material comprising a layer of pile fabric having a ground which is too flimsy for a carpet back and which is sufficiently pliable to enable the pile fabric to pass through dyeing, washing, or similar finishing processes like cloth, a layer of felt fabric, and an intermediate layer of flexible adhesive binding material adhesively securing the aforesaid layers together to cause the ground of the pile fabric, the binding material and the felt fabric to form a unitary body of sufficient thickness, transverse stiffness and resilience in the direction of its thickness to present the qualities required for both a carpet back and a resilient cushion carpet lining.

12. A carpet material comprising a layer of warp pile fabric in which the pile warp is composed wholly or in part of mohair and in which the ground of the fabric is too flimsy for a carpet back but is sufficiently pliable to enable the pile fabric to pass through dyeing, washing or similar finishing processes like cloth, a layer of thick resilient fabric, and an intermediate layer of flexible pyroxylin compound penetrating the adjacent surfaces of, and adhesively securing, the aforesaid layers together to cause the ground of the pile fabric, the pyroxylin compound and the second fabric to form a unitary body of sufficient thickness, transverse stiffness and resilience in the direction of its thickness to present the qualities required for both a carpet back and a resilient cushion carpet lining.

13. A carpet material comprising a layer of pile fabric having a ground which is too flimsy for a carpet back and which is sufficiently pliable to enable the pile fabric to pass through dyeing, washing or similar finishing processes like cloth, a layer of thick resilient fabric, and an intermediate layer of flexible pyroxylin compound penetrating the adjacent surfaces of, and adhesively securing, the aforesaid layers together to cause the ground of the pile fabric, the pyroxylin compound and the second fabric to form a unitary body of sufficient thickness, transverse stiffness and resilience in the direction of its thickness to present the qualities required for both a carpet back and a resilient cushion carpet lining.

14. A carpet material comprising a layer of warp pile fabric in which the pile warp is composed wholly or in part of mohair and in the ground of the fabric is too flimsy for a carpet back but is sufficiently pliable to enable the pile fabric to pass through dyeing, washing or similar finishing processes like cloth, a layer of thick fabric, and an intermediate layer of flexible pyroxylin compound penetrating the adjacent surfaces of, and adhesively securing, the aforesaid layers together to cause the ground of the pile fabric, the pyroxylin compound and the second fabric to form a unitary body of suffi-

cient thickness and transverse stiffness to present the qualities required for a carpet back.

15. A carpet material comprising a layer of pile fabric having a ground which is too flimsy for a carpet back and which is sufficiently pliable to enable the pile fabric to pass through dyeing, washing or similar finishing processes like cloth, a layer of short pile fabric having its ground facing the ground of the first layer, and an intermediate layer of flexible adhesive binding material adhesively securing the grounds of the aforesaid layers together to cause the ground of the first pile fabric, the binding material and the second pile fabric to form a unitary body of sufficient thickness, transverse stiffness and resilience in the direction of its thickness to present the qualities required for both a carpet back and a resilient cushion carpet lining.

16. A carpet material comprising the construction defined in claim 15, together with a coating of rubber compound on the tips of the pile of the short pile fabric giving the back of the said material a non-slipping surface when the material is employed as a rug.

17. A carpet material comprising the construction defined in claim 13, together with a coating of rubber compound on the exposed face of said body to give the back of the said material a non-slipping surface when the material is employed as a rug.

18. A carpet material having the construction defined in claim 1 in strip form with the warp extending longitudinally of the strip and with the strip presenting parallel cut edges perpendicular to the ground and separated by a distance substantially less than the woven pile width with the pile of uniform density from edge to edge.

19. A carpet material having the construction defined in claim 5 in strip form with the warp extending longitudinally of the strip and with the strip presenting parallel cut edges perpendicular to the ground and separated by a distance substantially less than the woven pile width with the pile of uniform density from edge to edge.

20. A carpet comprising a main section and a contrasting figure section each having the construction defined in claim 3, in which the figure section is in the form of an insert having its

peripheral edge cut perpendicular to the ground and abutting throughout a similar cut edge of the main section and a layer of fabric cemented at the back to both sections over the joint formed by the abutting cut edges.

21. A carpet comprising a main section and a contrasting figure section each having the construction defined in claim 3, in which the figure section is in the form of an insert having its peripheral edge cut perpendicular to the ground and abutting throughout a similar cut edge of the main section and with adhesive binding material securing the said cut abutting edges directly together and a layer of fabric cemented at the back to both sections over the joint formed by the abutting cut edges.

22. A carpet comprising two sections each having the construction defined in claim 3, with the adjacent edges cut perpendicular to the ground and abutting throughout and with adhesive binding material securing the said cut abutting edges directly together and a layer of fabric cemented at the back to both sections over the joint formed by the cut abutting edges.

23. A carpet comprising two sections each having the construction defined in claim 3, with the adjacent edges cut perpendicular to the ground and abutting throughout, a uniting strip of fabric impregnated with the same adhesive binding material extending over and at both sides of the joint formed by the cut abutting edges and with the same adhesive binding material securing directly together the cut abutting edges and securing the uniting strip to the back of the carpet material over and at both sides of the joint.

24. A carpet comprising two sections each consisting of woven pile fabric having its ground impregnated with an adhesive binding material and presenting the qualities required for a carpet back in which the adjacent edges of the two sections are cut perpendicular to the ground and abut throughout, a uniting strip of fabric extending over and at both sides of the joint formed by the cut abutting edges, and adhesive binding material securing directly together the cut abutting edges and securing the uniting strip to the back of the carpet material over and at both sides of the joint.

FRANK W. CLARK.

CERTIFICATE OF CORRECTION.

Patent No. 1,947,152.

February 13, 1934.

FRANK W. CLARK.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 6, line 8, claim 5, for "a" third occurrence read of; line 27, claim 6, for "or" read of; and line 139, claim 14, before "the" insert the word which; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 13th day of March, A. D. 1934.

F. M. Hopkins

(Seal)

Acting Commissioner of Patents.