

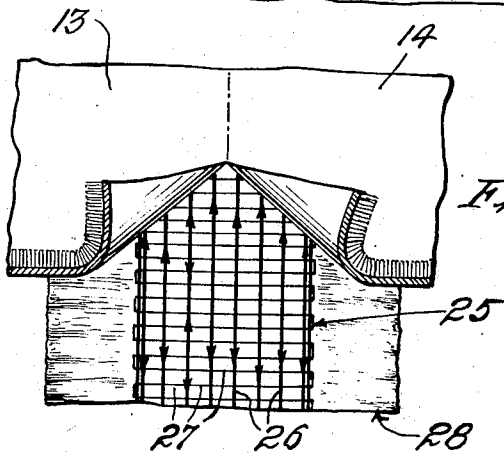
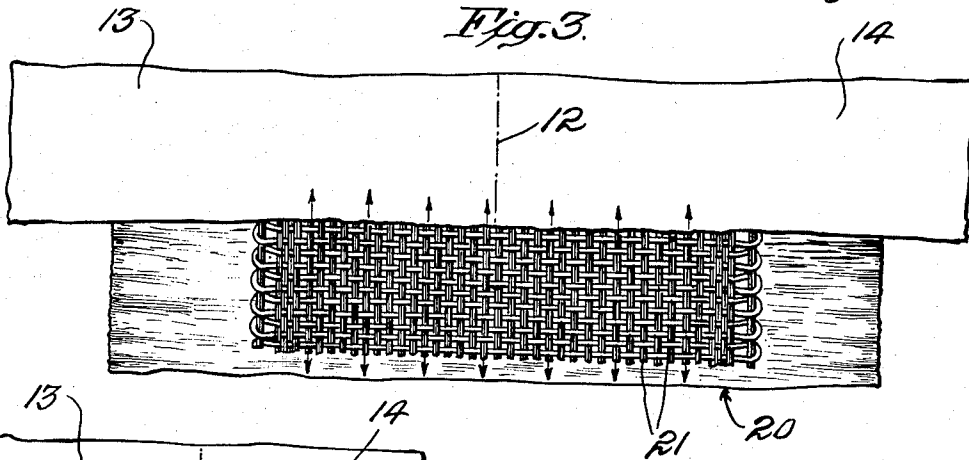
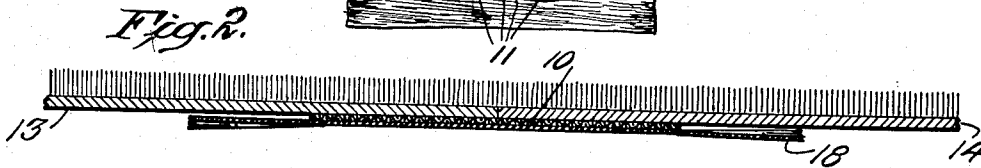
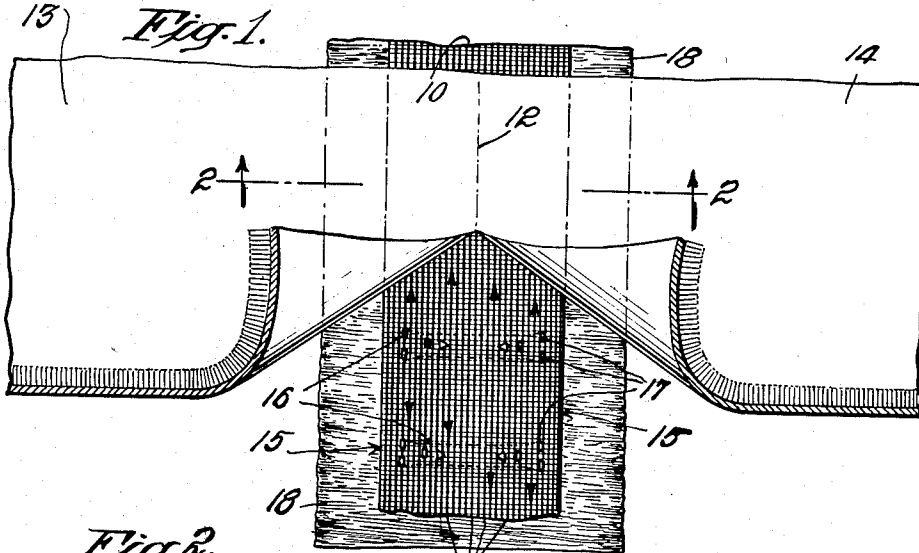
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EXTENSIBLE TAPE FOR JOINING CARPET SECTIONS

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EXTENSIBLE TAPE FOR JOINING
CARPET SECTIONS

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5 Claims. (Cl. 154—53.5)

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This invention relates to an improved tape useful particularly in joining the abutting edges of adjacently disposed pile-carpet strips or sections. In my application Serial No. 92,063, filed May 7, 1949, and issued as Patent No. 2,552,114 on May 8, 1951, I have described a novel carpet-joining tape and method of seaming together sections of pile carpeting, wherein means associated with the tape are provided for holding the carpet edges in abutting relationship during a stretching operation or similar manipulation.

To facilitate this operation, the tape of my aforementioned application is described as being extensible warpwise, but relatively inextensible weftwise of the seam. A preferred form of tape to enable this operation is a close weave tape woven lengthwise with extensible cotton or even elastic threads, and crosswise with relatively inextensible threads such as inextensible cotton fibers, glass fibers or specially processed cotton fibers from which the stretch has been removed. Fibers of the latter-mentioned type are especially strong and render tape made therefrom substantially inextensible transversely of the tape. This is essential for the reason that during the usual stretching operation, the carpet must be extensible lengthwise of the seam but the tape must be inextensible across the seam to maintain the edges of the adjoining sections in abutting relationship.

In connection with the use of a tape of the aforementioned character and particularly in the top seaming of carpet sections where the tape is initially laid along the floor, coated with an adherent material such as a rubber cement and the respective sections of the carpet brought together on the tape, it has been found desirable to provide a backing which will protect the adjacent floor surfaces from adhesive running over the edge of the fabric tape and to prevent seepage of the adhesive on to the floor surface before it has fully dried or hardened. However, the usual paper backing creates a condition of stress so that when the carpet is rolled lengthwise of the seam, wrinkles and irregularities occur which persist after the carpet is again unrolled.

In accordance with my present invention, I have found that these objectives may be fulfilled and wrinkling eliminated by providing a fabric carpet-joining tape, extensible lengthwise and relatively inextensible crosswise of the tape with a backing of crepe or crinkled paper which will provide the desired degree of protection to the floor surface and at the same time will extend with the fabric portion of the tape longitudinally

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of the seam during stretching operations, but will be relatively inextensible transversely of the seam. It has been found that carpet sections joined by tape fabricated in the foregoing manner are free of irregularities and produce a smooth and even appearance on the floor surface.

In the drawings Figure 1 is a preferred embodiment showing the invention applied to the form of tape described in my above-mentioned application. Figure 2 represents a cross section on the line 2—2 of Figure 1. Figure 3 shows the invention applied to a slightly modified form of tape. Figure 4 represents a still further modified tape incorporating my present invention.

Referring in detail to the drawings and in particular to Figure 1, it will be seen that 10 denotes a tape having differential stretch characteristics, provided with warp threads 11 of cotton or a combination of cotton and elastic yarn so as to be extensible longitudinally or lengthwise of the seam 12 formed by the adjoining carpet sections 13 and 14, as plainly shown in Figure 1. The extensible warp threads 11 are interlaced or interwoven transversely with weft threads 15 which are relatively inextensible and may be formed of processed cotton yarn, glass fibers or other suitable material. As described in my aforementioned application, Serial No. 92,063, the tape 10 may be provided with a plurality of transversely disposed saddle plates 16, preferably of metal, having pointed elements 17 adapted to penetrate through the fabric tape 10 and securely grip the backings of the respective carpet sections 13 and 14, after the tape has been provided on its surface with a coating of adhesive.

In accordance with the invention, the fabric tape 10, which in the embodiment shown in Figure 1 is a close-woven tape, is provided with a backing 18 of paper or similar material for the purpose of forming a shield between the fabric tape 10 and the floor surface to prevent the rubber or other adhesive applied to the surface of the tape 10 from seeping through to the floor. It will be observed that this backing 18 is substantially wider than the superimposed fabric tape 10 for the additional purpose of preventing the adhesive from running over the edges of the tape onto the adjacent floor surfaces before the edges of the adjoining carpet sections 13 and 14 are brought into abutting relationship.

In top seaming the adjacent carpet sections 13 and 14, the tape 10 and backing 18 are merely laid along the floor and a coating of a suitable adhesive such as a rubber adhesive applied to

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the surface of this tape and thereafter the carpet sections 13 and 14 are brought into abutting relationship and the edges pressed downwardly on the tape 10 so that the pointed elements 17 penetrate the backings of the carpet sections and hold the sections in abutting relationship until the adhesive has dried.

To expedite the carpet laying operation, however, it is desirable to apply carpet stretchers along the surface of the carpet seam 12 without waiting for the adhesive between the carpet backings and the tape 10 to become dry, and this is facilitated by virtue of the pointed elements or grippers 17 which "grip" into the carpet backings and maintain them in abutting relationship during the stretching operation. It is during this operation that the seam between the carpet sections 13 and 14 may be relatively displaced longitudinally and this is permitted by virtue of the warpwise extensibility of the tape 10 as previously described. In accordance with the present invention, this extensibility is further facilitated by providing the paper backing 18 in the form of a crepe or crinkled paper which will provide the desired degree of protection to the floor surface and at the same time will not interfere with the extensibility of the tape longitudinally of the seam 12. Moreover, this backing 18 is relatively inextensible across the seam and, therefore, reinforces the inextensible characteristics of the woven tape 10 as will be readily appreciated. The crinkled paper backing 18 may be attached to the fabric portion 10 of the tape in any suitable manner and preferably may be done by the aid of an adhesive during the manufacture of the fabric tape 10 as the gripper plates 16 are being applied to the tape.

Referring to Figure 3, a slightly modified form of tape 20 is shown which consists of a close-woven fabric portion 21 similar to the fabric portion 10 in the embodiment shown in Figure 1, but without the gripper plates 16 and pointed elements 17 included in that particular tape. This tape 21 has a backing 20 of crepe or crinkled paper which may be of a similar nature as that employed above in connection with the fabric tape 10 and secured in any suitable manner to the close-woven tape 21. As previously described the exposed face of the fabric tape 21 is provided with a coating of adhesive and the adjacent carpet sections 13 and 14 brought together to form a common seam 12. If desired, the edges of the respective carpet sections 13 and 14 may be "stay-tacked" to the floor to permit drying of the adhesive and establishment of a permanent joint or if desired pressure may be applied along the seam 12 by weights or other suitable means to hold the abutting carpet edges in proper relationship until the adhesive has dried. In certain types of rubber adhesive the use of weights is unnecessary.

In Figure 4 I have shown my invention applied to a loosely woven or open weave form of tape 25, which similar to the close-woven tape, is formed with extensible warp threads 26 and relatively inextensible weft threads 27 which may be of glass fiber or other suitable material. This open weave tape 25 is provided with a crepe or crinkled backing 28, similar to the backing employed in the embodiments of the invention depicted in Figures 1 and 2 of the drawing, so that the backing is freely extensible with the fabric tape 25 during the stretching operation but forms a shield between the relatively open weave tape 25 of the floor to localize the adhesive material

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between the paper backing 28 and the woven backings of the respective carpet sections 13 and 14, as will be readily appreciated.

I claim:

1. A tape for seaming together the abutting edges of adjacent carpet sections, comprising fabric material relatively inextensible in a direction transverse to the carpet seam and extensible in a direction longitudinal to the carpet seam and a strip of paper secured to the back of the fabric tape and crinkled transversely thereof so as to be extensible in a direction lengthwise of the tape with the fabric portion and to protect the floor surfaces from adhesive.

2. A tape adapted to join together adhesively adjacent abutting pieces of carpeting forming therebetween a seam, comprising a relatively narrow elongated woven fabric composed of substantially nonstretch transverse fibers and extensible longitudinal fibers to allow the carpet to be stretched along the seam after the tape is applied to the carpet backing, while holding the edges in abutting relationship, and a strip of paper secured to the fabric tape and crinkled transversely thereof to form a shield for adhesive applied to the surface of the tape and to allow stretching of the tape lengthwise of the seam.

3. A tape for adhesively joining together adjacent carpet sections at the abutting edges, comprising an elongated narrow fabric extensible lengthwise to permit stretching of the carpet along the seam, but substantially inextensible widthwise to hold the edges in abutting relationship after they are secured together by the tape, and a backing of crinkled paper secured to the opposite side of the tape to localize adhesive applied to the surface thereof, the wrinkles running transversely of the tape so as to be extensible in a direction lengthwise of the tape with the fabric portion.

4. A tape for joining together carpet sections, a woven fabric having extensible threads running lengthwise and relatively inextensible threads running widthwise of the tape and a backing of crepe paper with the wrinkled portion running transversely of the tape so as to be extensible in a direction lengthwise of the tape with the fabric portion.

5. A tape for joining together carpet sections, comprising a woven fabric having extensible threads running lengthwise of the tape and relatively inextensible threads running widthwise and a backing of crepe paper wider than the fabric tape with the wrinkles running transversely thereof to localize adhesive applied to the surface of the tape said crepe paper being extensible in a direction lengthwise of the tape with the fabric portion.

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