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3,551,939

STAIR CARPET FASTENER

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FIG. 1

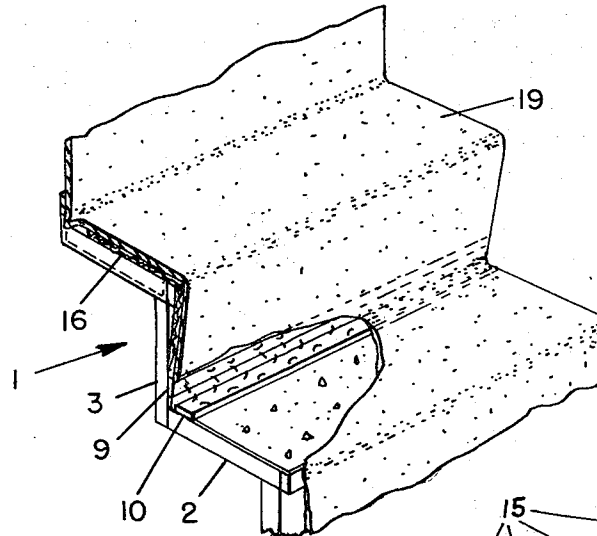


FIG. 2

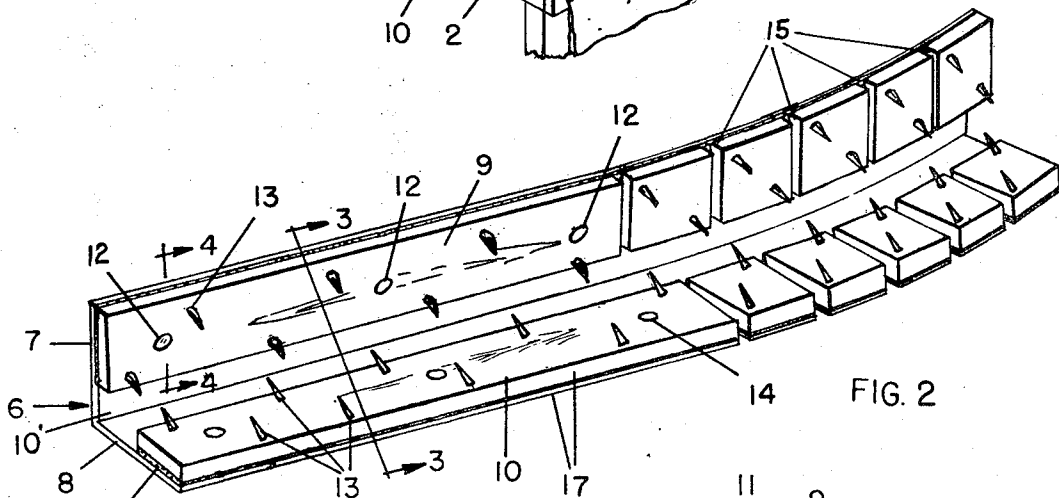


FIG. 3

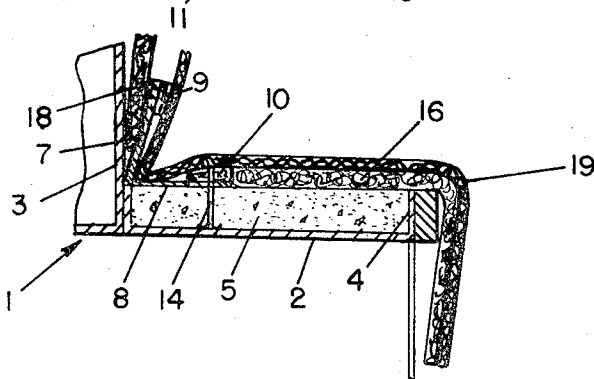
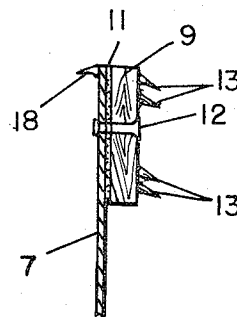


FIG. 4



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3,551,939

STAIR CARPET FASTENER

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7 Claims

ABSTRACT OF THE DISCLOSURE

A carpet fastener for arranging and securing stair carpeting to the steps of prefabricated stairways presently being commonly used in construction projects.

The present invention relates to a carpet anchoring strip including vertical and horizontal portions having strips secured thereto and formed with angularly disposed carpet securing pins for engaging with and anchoring both the underlay and carpeting covering stair treads and risers.

Heretofore, it has been the practice to use various types of anchoring strips in assembling floor and stairway carpeting without the use of tacks. However, none of these devices have proved satisfactory in installing carpeting to metal and concrete stairways in that these fasteners require anchoring to both stair risers and treads, which is not possible when applied to concrete and metal steps. In addition, stairways are often curved or irregularly shaped and the prior art fastening devices cannot conform to the contour thereof and, hence, will not snugly and neatly secure the carpeting thereto without forming unsightly bulges or folds.

Accordingly, it is the principal object of this invention to provide a carpet anchoring strip which may be readily flexed so as to snugly conform to the contour of preformed metal and concrete stairways, and which may be easily secured to the treads thereof by the use of fastening nails.

Another object is the provision of a flexible, generally right angularly disposed, elongated, metal or plastic carpet securing strip having anchoring slats arranged thereon so that stairway carpeting will snugly interfit the crotches between the stair treads and risers, and which will firmly and smoothly support the carpeting relative thereto.

A further object is to provide a flexible metal or plastic carpet anchoring strip having vertical and horizontal portions with wood or plastic anchoring slats thereon, and wherein both the strip portions and the slats have slots therein to enable flexing of the strip to conform to the contour of the step.

Another object is the provision of a metal carpet anchoring strip adapted to be readily secured to the treads of preformed concrete and metal stairways by the simple expedient of applying fasteners through the slats and horizontal portions of the strips and into the treads thereof.

A still further object is to provide a metal or plastic carpet anchoring strip having vertical and horizontal portions with wood or plastic carpet securing slats thereon which will position and hold the underlay relative to the treads and risers and enable the carpeting to be supported and backed in the areas where it spans the risers and to thereby present a neat appearance.

A further object is the provision of a simple, very light, flexible, carpet anchoring strip which is inexpensive to fabricate and easy to assemble when installing carpet on concrete and metal stairways.

In one aspect of the invention there is provided a flexi-

ble, metal or plastic right angularly disposed strip having wood or plastic slats arranged on and secured to the horizontal and vertical portions thereof. Angled securing pins are provided in the slats to engage with and anchor stair carpeting. Both the metal portions and the non-metal slats are slotted to facilitate flexing of the strip so that it will conform to the contour of the concrete or metal step on which it is installed and whereby the carpet will correspond to the shape thereof.

These and various other objects and advantages will be apparent as the specification is considered with the accompanying drawings wherein

FIG. 1 is a perspective view of a portion of a carpeted metal stairway, with the carpeting broken away to illustrate a carpet anchoring strip positioned thereon;

FIG. 2 is a perspective view of a carpet anchoring strip, showing one end slotted to enable that portion to flex;

FIG. 3 is a cross section of a metal step with the anchoring strip and carpeting arranged thereon; and

FIG. 4 is a section through the vertical portion of the strip with the non-metal slat secured thereto by adhesive and fasteners.

Referring more particularly to the drawings, wherein similar reference characters designate like parts through out the several views, numeral 1 generally identifies a metal stairway, of the type conventionally used in constructing multi-unit apartment dwellings and commercial construction projects, and wherein the stairway is installed on concrete flooring not shown, and the building erected therearound. Such stairways include metal treads 2 and risers 3, with the treads formed with a recess 4 in the upper faces thereof within which concrete 5 is troweled to provide an anti-slipping surface thereon. The stairway may also be preformed of concrete, not shown, in which event the risers and treads will be of concrete.

In installing carpet on a stairway 1, it is necessary to provide fastening devices at the crotches between each of the treads and risers. To this end, an elongated anchoring strip 6 of some suitable, somewhat flexible, relatively thin material, such as aluminum, tin, or some suitable plastic, bent generally right angularly into vertical and horizontal portions 7 and 8 is provided so that the horizontal portions 8 will flatly engage the treads and the vertical portions 7 will correspondingly engage the risers. Flat strips 9 and 10 of some suitable material, such as wood or plastic, are disposed on portions 7-8 and are aligned with the upper and outer extremities thereof so that their respective lower and inner edges are spaced from each other and the bend therebetween, for a purpose to be hereinafter described. Each of the strips 9-10 are suitably adhesively secured, as at 11, to the inner faces of portions 7-8, with the strips 9 being provided, if desired, with additional anchoring nails or rivets 12 to anchor the same to the vertical portions 7. A plurality of inclined pins 13 are suitably embedded in rows in each of the strips 9-10 and protrude downwardly and upwardly, respectively, therefrom, as best shown in FIG. 2 and will firmly engage the carpet, in an obvious manner.

An anchoring strip 6 is secured in place by positioning the same at the crotch between the tread and riser so that the horizontal portion 8 overlies the concrete surfaced tread. Suitable anchoring devices 14, such as case-hardened nails, preferably of a length slightly exceeding the combined thickness of the strip 6, metal portion 8, and concrete 5, are driven downwardly through the latter until the pointed ends thereof engage the metal surface of the treads and are deflected or spread laterally to additionally anchor the strip thereto. The vertical portions 7 are unsecured to the risers and are free to move relative thereto.

If the stairway is preformed of concrete, both the risers and treads thereof will be of solid precast concrete and will not include any metal. In such an event, the horizontal portion 8 will be positioned on the concrete tread and the slat 10 and portion 8 are secured directly to the concrete by case hardened nails which will become embedded therein.

As preformed stairways of this type are often curved or irregularly shaped, the present anchoring strips 6 are so adapted that they may be flexed or bent to conform to the contour of the steps. Thus, the portions 7-8 and the strips 9-10 secured thereto are provided with spaced slots 15 which may extend entirely therethrough and throughout the height and width thereof, or at some points intermediate thereof. The slots may be staggered or offset in order that the strips 6 will not be unduly weakened, and these slots may be suitably arranged throughout the length of the strips to enable flexing of the entire strip, or they may be confined to one or both ends, or at some point therebetween, depending on the particular area thereof which is to be flexed. When so slotted, it will be evident that the strip may be bent to conform to the curvature or contour of the step.

After anchoring strips 6 have been so positioned and anchored to the treads 2, carpet underlay or padding 16 is positioned on one tread in abutting relation to the outer edges 17 of strip 10 and portion 8, and is drawn over the forward edge of the step and thence downwardly and inwardly, and the lower portion of the underlay is fitted between the rear face of portion 7 and the riser 3. While the flexibility of the vertical strip portion 7 may be sufficient to retain the lower end of the underlay in position, it may be desirable to additionally anchor that portion of the underlay. Thus, rearwardly and downwardly inclined spaced teeth 18 or the like may be provided on the upper edges of the portions 7 so as to interengage the underlay and retain it in position. Carpet 19 is then stretched over the treads and risers and the fold is compressed into the pocket 10' between the strips 9-10 on the portions 7-8 so as to create a generally right angle at the junction therebetween. The carpet is then engaged by pins 13 and held in position relative to the risers and treads without crimping and bulging.

As the strips 9-10 are secured to the portions 7-8 and the strips 10 and portions 8 are connected to the concrete sections of the treads by nails, it will be understood that the strips 9-10 serve to reinforce the anchoring strips 6 and provide rigid flat supporting surfaces for the carpet. This is an important feature because it is essential that the fold of the carpet extend into the crotch between the portions 7-8 and yet be rigidly or firmly supported in areas adjacent thereto.

The fully formed metal or plastic anchoring strips having the flat wood or plastic strips 9-10 assembled thereon, and with both strips being pre-slotted to impart flexibility thereto, may be provided in predetermined lengths. These lengths may be severed by the carpet installer to the lengths suitable for a particular metal stair-

way installation, or the assembled strips may be provided in shorter lengths which may thereafter be combined to furnish the metal or wood strips disassembled in kit form in suitable containers together with adhesive and securing nails. If so, the strips could be marked or lined at the points where slots could be provided therein. Thus, it would be possible for a home craftsman to obtain such a kit and, following the instructions contained therein, assemble the anchoring strips to suit his particular preformed stairway carpeting needs.

What I claim is:

1. A unitary carpet fastener for preformed stairways comprising elongated flat integral vertical and horizontal portions bent substantially right angularly, flat strips mounted on and secured to the inner faces of said portions adjacent the outer edges thereof and in spaced relationship, at least one of said portions and strips being slotted to impart flexibility thereto whereby said portions and strips will flex and conform to the contour of the stairway, means for securing said horizontal portion to a tread of the stairway whereby said vertical portion will generally parallel and yet be free from the riser thereof, and pointed carpet engaging means on said strips for positioning carpet thereagainst and relative to the risers and treads.

2. In a unitary carpet fastener according to claim 1 wherein said flat strips are non-metal and are secured to the inner faces of said portions by adhesive.

3. In a unitary carpet fastener according to claim 2 wherein said horizontal portion is secured to said metal tread by pointed fastening means.

4. In a unitary carpet fastener according to claim 3 wherein the stairways are of metal and the metal treads include concrete portions on the faces thereof, and said pointed fastening means extend through said concrete portions and into engagement with the metal portions of said treads.

5. In a unitary carpet fastener according to claim 4 wherein said vertical and horizontal portions are of flexible metal, and said flat strips are non-metal, and said pointed fastening means extend through said concrete tread portions and engage with and are deflected by said metal tread to anchor said fasteners thereto.

6. In a unitary carpet fastener according to claim 5 wherein said flat strips are wood.

7. In a unitary carpet fastener according to claim 6 wherein said vertical and horizontal portions are of flexible plastic, and said flat strips are plastic.

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