Dec. 26, 1933. H. P. DILLIG 1,940,744

STAIR TREAD DEVICE

Filed April 14, 1931

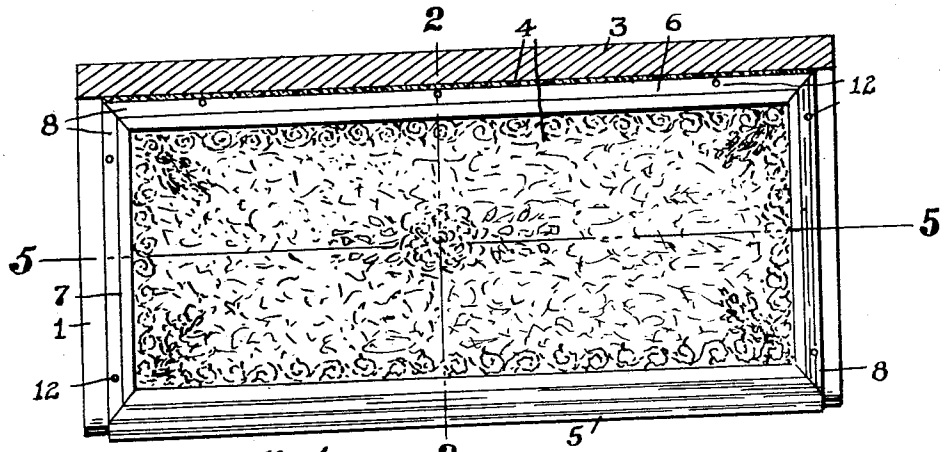


Fig. 1

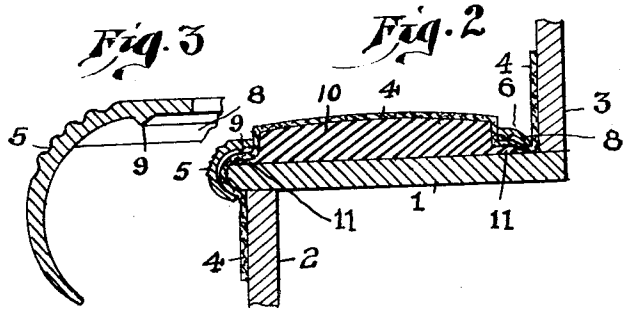


Fig. 2

Fig. 3

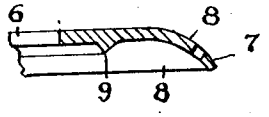


Fig. 4

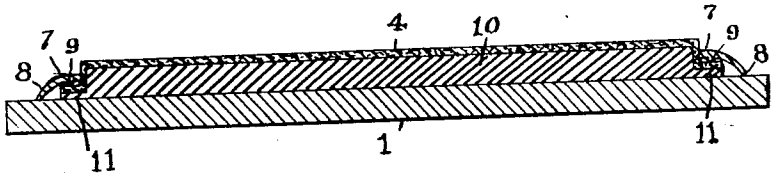


Fig. 5

INVENTOR

Henry P. Dillig.

by Edward A. Laurence.

his attorney.

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STAIR TREAD DEVICE

Henry P. Dillig, Pittsburgh, Pa.

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1 Claim. (Cl. 20—79)

Stair carpets, usually long strips termed "runners", owing to the constant use of the stairs wear out rapidly, especially at the front edges of the tread boards of the stairs, and thus the floor carpets and rugs outlast the stair coverings.

Various schemes for protecting the runners from wear have been proposed, and in several instances have been put into use.

Thus in some cases the use of a runner has been abandoned and tread surfaces of rubber or other long-wearing material have been employed.

Such tread protectors, however, present an incongruous appearance, especially in private houses, and render the use of the stairs noisy.

Again, in some instances strips of metal, having an arcuate cross sectional shape, have been secured over the runner at the edge of the tread boards to assume the hardest wear, but such protectors are unsightly and the heels are likely to catch thereon and thus serious accidents occur.

Another proposed form of covering for the tread boards of stairs comprises pieces of carpet cut to the proper dimensions to cover a tread board with the edges of the carpet piece clamped in the doubled over sides and ends of an open sheet metal frame which is attached to the tread board. This entails the cutting of the carpet or runner into pieces. Moreover the edges of the pieces tend to ravel and fray, pulling out from the sides of the frames and thus requiring replacement. Again the metal frame extends above the carpet centers or fillers and is likely to be caught by the heel.

As far as I am informed no practical tread protectors adapted for use in connection with a continuous carpet strip or runner on stairs has hitherto been provided.

In the present invention I am enabled to use the ordinary carpet runner on the stairs without cutting it into pieces, and the feet come into contact with the carpet on the tread boards of the stairs and normally not in contact with the metal frame.

The arrangement is such that the wear at the front edge of the step, where the carpet is stretched over the edg of the tread board is taken by the frame but the portion of the carpet which fills the center of the frame has its top or tread surface raised above the latter.

Thus the stairs are rendered noiseless and there is no danger of the heel striking or catching on the frame.

By means of my novel arrangement, the center of the frame is occupied by a cushioning member or pad over which the runner is stretched, and the edges of the pad are preferably reduced in thickness and are held beneath the frame.

The frame is provided at the front with a curved nose which fits over the front edge of the tread board of the stairs and thus protects the runner at the point of greatest wear.

The frame may be formed of metal or of other material having the required degree of rigidity and wear-resistance.

Other novel features of construction, and also of arrangement of parts will appear from the following description.

In the accompanying drawing, wherein I have illustrated a practical embodiment of the principles of my invention, Fig. 1 is a plan view showing a stair step to which my invention is applied.

Fig. 2 is a sectional view taken along the line 2—2 in Fig. 1.

Fig. 3 is an enlarged detail in section of the curved nose or front bar of the frame.

Fig. 4 is an enlarged detail in cross section of one of the end bars of the frame.

Fig. 5 is a sectional view taken along the line 5—5 in Fig. 1.

Referring to the drawing, 1 represents one of the tread boards of a stairway, 2 the lower riser and 3 the upper riser. 4 represents the runner or strip of carpet on the stairs.

I provide an open frame which may be of metal or other material of sufficient rigidity and wear-resisting qualities. This frame is comprised of the front bar or nose 5 which is curved to fit down over the front edge of the tread board 1, the rear bar 6 which is parallel to the front bar 5, and the two end bars 7. The bars are rigidly or integrally connected with each other at their ends.

The bars are provided with substantially horizontal portions with, in the case of the rear bar and the end bars, an inclined skirt 8 which extends downwardly and outwardly as shown.

The under surfaces of the horizontal portions of the bars are provided with ribs 9 which are preferably angular as shown.

10 represents a stair pad which may be of any suitable material, such as of rubber or felt, or of any other suitable pad material. Its body or main portion is of proper dimensions to fit the open center of the frame with sufficient freedom to accommodate the runner 4. The body of the pad should be of sufficient thickness to extend up at least to and preferably somewhat above the top level of the frame. The perimetral edges of the pad are provided with an outwardly extending flange 11 which fits beneath the horizontal

portions of the bars of the frame. The stair carpet or runner 4 is preferably continuous.

The pad 10 together with its flange 11 is of substantially the same width as the runner.

The pads 10 are inserted under the runner 4 on each step of the stairs and the frames are then placed in position, the pads and the portions of the runner superposed on the pads occupying the openings of the frames, and the noses 5 of the frames covering and protecting the portions of the runner which are stretched around the front edges of the tread boards, and the horizontal portions of the bars of the frame pressing down on the runner and on the flanges 11 of the pads 10, the ribs 9 being pressed down into the runner and into the flange of the pad. The frames are held down snugly in place as by means of nails or screws 12 which are inserted through holes in the skirts 8 of the end bars 7.

It is evident that the runner is exposed in the openings of the frames and has its top surface elevated by the pads so that the feet of one walking up or down the stairs step on soft cushioned surfaces and do not contact with the frame.

The runner if properly secured when put down will remain properly stretched and will not budge or pull out.

The relatively thick padding protects the exposed portions of the runner and the curved noses of the frames prevent the wearing and scuffing of the runner where it is turned over the front edge of the tread boards.

The frame and pad are inexpensive and easily installed and removed.

I claim:—

A stair tread device for stairs wherein each tread has a nose which projects forwardly of the riser below the tread and consisting of a unitary rectangular frame having its inner peripheral portion flat and parallel to the plane of the tread and provided on its underside adjacent said periphery with a V-shaped rib extending downwardly all around the frame, said frame having parallel front and rear portions and parallel side portions which are bent downward and outward at their outer parts to rest on the tread of a stair, the said side portions forming inverted channels whereby a strip of carpet may pass beneath said frame with the side edges of the carpet confined within the channel of the side portions of the frame and with said rear portion holding the carpet snugly at the point of juncture of the tread board and the upper riser of the stair, the outer part of said front portion being bent downwardly and then rearwardly to extend entirely around the nose of the tread, and longitudinal corrugations formed on the downwardly bent part of the said forward portion.

HENRY P. DILLIG.