

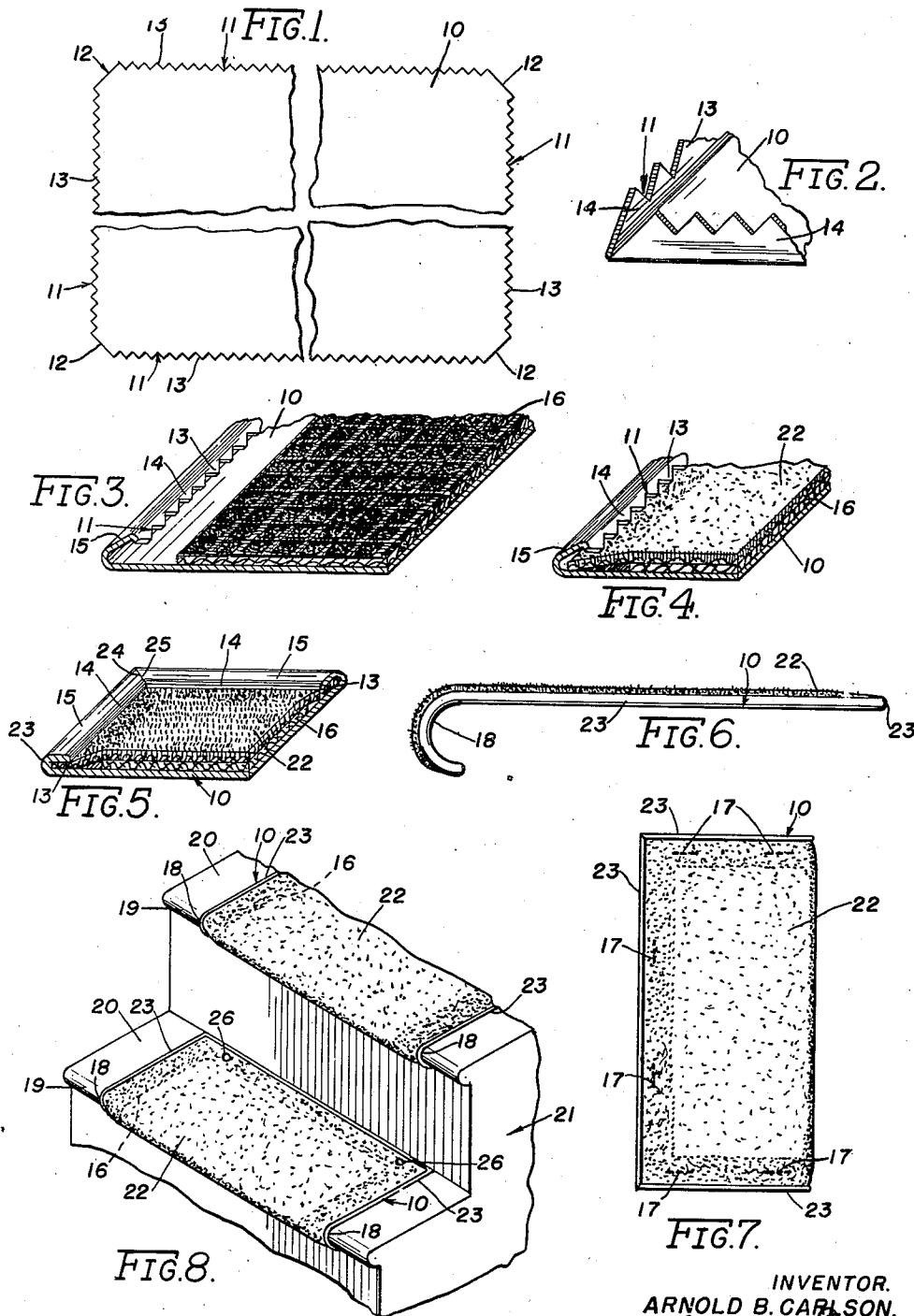
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PREFORMED COMPOSITE STEP TREAD

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PREFORMED COMPOSITE STEP TREAD

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1 Claim. (Cl. 20—79)

This invention relates to preformed composite stair treads and more particularly to their method of manufacture, although certain features thereof may be used with equal advantage for other purposes.

It contemplates more especially the provision of a preformed stair tread that consists of composite sheets of material and pads which are assembled as a unit to define a carpeted stair tread.

Stair treads of numerous types have heretofore been proposed, these not having proved entirely satisfactory owing to the cost of manufacture and the care that must be exercised in assembling composite materials for retention in position on stair steps. It is proposed to combine a blank metallic sheet with a preformed pad and a strip of carpet so as to constitute a permanent composite unit adapted for ready application to the step of a stair without entailing any appreciable time or effort. This affords an improved protective tread for wood stairs that is padded and carpeted to conform with the other floors of the house and to have unusual wearing qualities employed with comfortable stepping characteristics.

One object of the present invention is to simplify the construction and provide an improved composite stair tread.

Another object of the invention is to provide a metallic member with a preformed pad and carpet strip for permanent assembly therewith for attachment to stair treads.

Still another object is to provide a preformed metallic blank shaped and flanged in a sequence of steps to provide a self-contained and preformed composite stair tread embodying the usual carpet and pad to minimize wear.

A further object is to provide a method of forming composite stair treads which consists in blanking a metal sheet so as to permanently retain a carpet having an interposed preformed pad.

A still further object is to provide a more simple and less expensive method of forming a composite stair tread to embody a metallic sheet for holding the preformed strip of carpet and pad in position to constitute a ready-made stair tread adapted for instantaneous application.

Still a further object is to provide a composite stair tread having a metallic sheet provided with a series of edge serrations to retain a strip of carpet and a pad in predetermined relation.

Other objects and advantages will appear from the following description of an illustrative embodiment of the present invention.

In the drawing:

Figure 1 is a fragmentary plan view of a metallic sheet that is blanked to provide the first step in the production of a padded stair tread.

Figure 2 is a fragmentary perspective view of a corner of the metallic sheet shown in Figure 1 illustrating the succeeding step of upturning the serrated edge preparatory to receiving a pad.

Figure 3 is a fragmentary perspective sectional view showing the next step of bumping the flanged serrated edge so as to enable the reception of a strip of carpet thereon subsequent to affixing a preformed pad to the surface thereof.

Figure 4 is a fragmentary perspective sectional view similar to Figure 3 and showing the application of a strip of carpet to the metallic member for disposition beneath the peripheral flange.

Figure 5 is a fragmentary perspective sectional view showing the next step of turning down the peripheral or flanged edges so that the serrations will project through the carpet and engage the bottom surface of the metallic sheet so as to hold the component parts in assembled relation.

Figure 6 is a side view in elevation of a finished composite stair tread embodying features of the present invention.

Figure 7 is a plan view of the finished stair tread shown in Figure 6 with the curved forward edge or ends thereof shown to the right in Figure 7 rather than the left as in Figure 6.

Figure 8 is a fragmentary perspective view of two steps of a stairway showing the preformed stair tread attached thereto in the contemplated manner.

The structure selected for illustration comprises a preformed sheet of metallic material 10 that is initially of substantially rectangular configuration preparatory to stamping so as to form individual rectangular sheets having serrated edges 11 terminating in cut-off corners 12. A serrated peripheral edge 11 defines teeth 13 that serve to retain a strip of carpet in stretched position in a manner which will appear more fully hereinafter.

After the metallic sheet material has been blanked to form sheets 10 with serrated edges 11 defining the teeth 13 interrupted by the cut-off corners 12, the sheet 10 is placed in a suitable die and blanked to define an upstanding peripheral flange 14 (Figure 2) so that the teeth 13 will extend normally to the surface of the sheet 10. The flange 14 is somewhat wider than the depth of the teeth 13. Thereupon, the sheet 10 is placed in a bumping die so as to provide an additional peripheral flanged portion 15 extending at an

angle of substantially 30° so as to turn the teeth in a downward direction for spaced relation to the surface of the sheet 10 (Figure 3).

This affords the application of a preformed carpet pad 16 which may be glued or otherwise attached to the top surface of the sheet 10 as commercial practice may dictate. For that matter, the pad 16 may be attached to the sheet 10 by means of staples 17 (Figure 7) or merely adhesively applied thereto so as to cover the greater part of the top surface of the sheet 10, terminating short of the peripheral flanged portions 11—14—15. Preparatory to securing the preformed pad 16 in any suitable manner to the top surface of the plate 10, the latter is shaped so as to provide an arcuate nose 18 (Figure 6) that envelops the forward edge 19 of standard steps 20 defining a stairway 21.

The pad 16 does not extend over the nose 18, but terminates short thereof so as to cover only that part of the sheet 10 which is above the top surface of the steps 20. For that matter, the pad 16 also terminates short of the peripheral edges of the sheet 10 so as to enable the insertion of a strip of carpet 22 in the serrated flanges 11—14—15 that extends around the entire periphery of the sheet 10. To this end, the strip of carpet 22 is shaped to conform substantially with the finished surface area of the sheet 10 so as to be inserted underneath the peripheral open flange 14—15 disposed therearound (Figure 4) preparatory to being subjected to a bumping operation which turns the flange 14—15 downwardly so that the teeth 13 project through the strip of carpet 22 and engages the confronting surfaces of the sheet 10 to permanently hold the carpet 22 in stretched position above the pad 16 in permanent assembled relation with the sheet 10.

It should be noted that in the last bumping operation that turns the flange 14—15 downwardly, the teeth 13 extend somewhat inwardly toward the finished rounded peripheral edge 23 so as to impart a stretching effect to the strip of carpet 22, this being due to the fact that the serrated edges is reversely bent to a slight degree during the last step in defining a peripheral fin-

ished flange 14—15—23. During this last operation the cut-off corners 12 serve to form meeting oblique edges 24—25 so as to define a peripheral flange of rectangular configuration to securely hold the carpet strip 22 in taut position against possible removal.

It will be observed, therefore, that a simple and inexpensive method has been provided to form stair treads of composite materials that will conform to a carpeted floor and afford comfortable treading up and down the steps 20 with minimum wear. This composite self-contained and preformed tread unit is attached to the steps 20 by having the nose 18 engage the forward rounded edge 19 thereof. They are then held in position against removal by having small nails or other suitable fasteners 26 pierce the carpet 22, the pad 16 and metallic sheet 10 near the rearward finished flange 14—15 of each unit 10. This results in an improved preformed composite stair tread that is simple and inexpensive in construction and possessed of improved functional features.

Various changes may be made in the embodiment of the invention herein specifically described without departing from or sacrificing any of the advantages of the invention or any features thereof, and nothing herein shall be construed as limitations upon the invention, its concept or structural embodiment as to the whole or any part thereof except as defined in the appended claim.

I claim:

A composite stair tread comprising a preformed metallic plate shaped to cover the tread of a step, a preformed pad of uniform thickness applied to the top surface of said metallic plate, said pad being smaller in surface area than said metallic plate, a preformed carpet shaped substantially to conform with the size of said metallic plate, and bent serrated edge flanges integrally formed on all edges of said metallic plate, the said serrated flanges projecting downwardly through the carpet to permanently retain the carpet under tension in all directions along its entire perimeter over the pad and top surface of said plate.

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