A stair steps gripper for permanently covering the carpet on the stair steps to prevent it from wearing out and becoming dirty, the stair steps gripper comprising a walking zone in the center having an anti-skid surface on the top and spikes on its lower surface for penetrating into an underlying carpet.
STAIR STEPS GRIPPER

FEDERALLY SPONSORED RESEARCH

[0001] Not Applicable

SEQUENCE LISTING OR PROGRAM

[0002] Not Applicable

BACKGROUND FIELD OF INVENTION

[0003] This invention relates to a small carpet runner adapted to be installed on stair steps, separately on each step, especially stairs located inside of a house. In general inside the house the stairway is covered with carpet for ornamental, flexibility and thermal insulation. The carpet on the steps become worn away more quickly than the carpet in the house and also dirties much easily. The area where the carpet is worn out and become dirty is located in the center of the stairs. The cleaning and changing of the carpet on the steps is very expensive and many times the new carpet doesn’t match the old carpet in the house. The tendency is to install a narrow piece of carpet runner, made from plastic or tread, as one unit body from the top to the bottom of the stairs fixed by stair rods or screws, but it brings into existence undesirable dispersion.

SUMMARY OF THE INVENTION

[0004] It is the principal object of the invention to provide a stair steps gripper which can protect the carpet on the steps and provide an anti-skid cushioned surface with an excellent flexibility and ornamental effect. This is generally achieved by covering a piece of semi-rigid plastic material, provided with short spikes on one side, with an anti-skid and cushion material, having ornamental properties. Another purpose of this invention is to provide a stair steps gripper which can be very easy installed on each step of the stair, which is clear of the undesirable dispersion. Using this invention will prevent the carpet wear out, dirt on the steps and injury, due to skidding, is reduced to minimum.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. 1 is a perspective view of a preferred embodiment of a stair steps gripper.

[0006] FIG. 2 is a view in detail of the portion indicated by the section line 2-2 in FIG. 1

[0007] FIG. 3 is a perspective view of the base.

[0008] FIG. 4 is a view in detail of the portion indicated by the section line 4-4 in FIG. 3

[0009] FIG. 5 is a perspective view of a modified embodiment of the stair steps gripper.

[0010] FIG. 6 is a view in detail of the portion indicated by the section line 6-6 in FIG. 5

[0011] FIG. 7 is a perspective view of a modified embodiment of FIG. 1

[0012] FIG. 8A is a view in detail of the portion indicated by the section line 8-8 in FIG. 7

[0013] FIG. 8B is a modification of FIG. 8A indicated by the section line 8-8 in FIG. 7

[0014] FIG. 9 is a view in detail of the portion indicated by the section line 9-9 in FIG. 7

[0015] FIG. 10 is a perspective view of the base.

[0016] FIG. 11A is a view in detail of the portion indicated by the section line 11-11 in FIG. 10

[0017] FIG. 11B is a modification of FIG. 11A indicated by the section line 11-11 in FIG. 10

[0018] FIG. 12 is a perspective view of a modified embodiment of FIG. 7

[0019] FIG. 13 is a view in detail of the portion indicated by the section line 13-13 in FIG. 12

[0020] FIG. 14 is a perspective view of a modified embodiment of FIG. 7

[0021] FIG. 15A is a view in detail of the portion indicated by the section line 15-15 in FIG. 14

[0022] FIG. 15B is a modification of FIG. 15A indicated by the section line 15-15 in FIG. 14

[0023] FIG. 16 is a view in detail of the portion indicated by the section line 16-16 in FIG. 14

[0024] FIG. 17 is a perspective view of a modified embodiment of FIG. 12

[0025] FIG. 18A is a view in detail of the portion indicated by the section line 18-18 in FIG. 17

[0026] FIG. 18B is a modification of FIG. 18A indicated by the section line 18-18 in FIG. 17

[0027] FIG. 18C is a modification of FIG. 18A indicated by the section line 18-18 in FIG. 17

[0028] FIG. 19 is a view in detail of the portion indicated by the section line 19-19 in FIG. 17

[0029] FIG. 20 is a perspective view of a modified embodiment of FIG. 10

[0030] FIG. 21 is a perspective view of a modified embodiment of FIG. 10

[0031] FIG. 22 is a perspective view of a modified embodiment of FIG. 10

REFERENCE NUMERALS IN DRAWINGS

[0032] 51—Runner

[0033] 52—Adhesive

[0034] 53—Surging

[0035] 54—Spike

[0036] 55—Rigidity serrations

[0037] 56—Front edge

[0038] 57—Curved edge

[0039] 58—Anti-skid serrations

[0040] 59—L-shape fixture

[0041] 60—Base

[0042] 61—Anti-skid material

[0043] 62—Hole
A preferred embodiment of the stair steps gripper of the present invention is illustrated in FIG. 1. The invention has a base 60 made from semi-rigid plastic material with short but relatively sharp spikes 54 on its lower surface for penetrating into an underlying carpet 68. The vinyl plastic used to fabricate the base 60 is semi-rigid, liquid-impervious, plastic material having a predetermined durometer rating on a Rockwell C scale sufficiently high to provide enough rigidity for the base 60. The base 60 can be cut in any predetermined lengths and widths at a cutting station during the fabrication process as the formed roll leaves the forming stations. However, the base 60 can consist of any other material that can satisfy the condition of rigidity on a Rockwell C scale like polyethylene, polypropylene, vinyl, nylon, various impregnated or laminated fibrous materials, various plasticized materials, cardboard, paper, etc. The thickness of the base 60 can be typically 2 mm to 4 mm and the overall dimensions depends on the applications. The color of the base 60 can be clear, semi-transparent or colored plastic to give ornamental variations to the carpet 68. The outer four corners of the base 60 are typically beveled or rounded to avoid snagging and personal injury. The base 60 can be cut in various shapes for example rectangular, trapezoidal, circular, semi-circular, elliptical, semi-elliptic, etc. The runner 51, shown partially peeled back, is a common carpet, a short or deep pile carpet, a foot cloth or felt and can be cut in the same various shapes like the gripper. The edges of the runner 51 are protected against surging by surging or covering the edges with a plastic sheet, a cloth, etc. The overall dimensions of the runner 51 can be smaller equal or bigger than the size of the base 60 because the same invention can be used to hold in place a foot cloth or a small decorative rug on the carpet. The connection between the base 60 and the runner 51 is made by an adhesive 52 which enables the base 60 and the runner 51 to form the stairs gripper. The adhesive 52 can be a latex adhesive, synthetic resin, adhesive tape with a good adherence and flexibility to plastic and carpet. FIG. 2 show a view in detail along its cross-section 2-2 of the front edge 56 for the base 60. The base 60 is provided on the upper surface with rigidity serrations 55 to increase rigidity and on the lower surface spikes 54 designed to secure the base 60 on the carpet 68. FIG. 3 show the preferred embodiment for the base 60 and a view in detail along its longitudinal cross-section 4-4 characterized in that the walking zone on the center has the same thickness like the edge zone.
FIG. 22 is a further modification of the base 60 showed in FIG. 10 characterized in double edge 64 on the sides.

Although exemplary embodiments of the invention have been disclosed for illustrative purpose, it will be understood that various minor changes, modifications and substitutions may be made in such embodiments without departing from the invention as hereinafter claimed.

What I claim as my invention is:

1. A stair steps gripper for covering the carpet on the stair steps to prevent it from becoming wear out prematurely and dirty, the stair steps gripper comprising a walking zone in the center having an anti-skid surface on the top and spikes on the bottom surface and a strait front edge.

2. A stair steps gripper as defined in claim 1 in which the base is composed of semi-rigid plastic and spikes on the bottom surface.

3. A stair steps gripper as defined in claim 1 in which the runner has an anti-skid surface.

4. A stair steps gripper as defined in claim 1 in which the front edge is curved and has an anti-skid surface.

5. A stair steps gripper for covering the steps made from hard wood or concrete, the stair steps gripper comprising a walking zone in the center having an anti-skid surface on the top and an anti-skid material in the lower surface and a strait front edge.

6. A stair steps gripper as defined in claim 5 in which the front edge is curved and has a serrated surface.

7. A stair steps gripper as defined in claims 5 and 6 in which the lower surface is uncovered with anti-skid material.

8. A stair steps gripper as defined in claims 5 and 6 in which the base has a double edge in the back.

9. A stair steps gripper as defined in claim 5 and 6 in which the base is secured on the floor by an L-shaped fixture in the back.

10. A stair steps gripper as defined in claim 8 in which the front edge is curved and has a serrated surface.

11. A stair steps gripper as defined in claim 8 in which the base is secured on the floor by an U-shaped fixture in the back.

12. A stair steps gripper as defined in claim 8 in which an U-shape fixture in the back and an edge cover in the front secure the base on the floor.

13. A stair steps gripper as defined in claim 8 in which the front edge is S-shaped and has a serrated surface.

14. A stair steps gripper as defined in claim 8 in which the front edge is L-shaped and has a serrated surface.

15. A stair steps gripper as defined in claims 10, 13 and 14 in which the front edge is uncovered with a serrated surface.

16. A stair steps gripper as defined in claim 12 in which the front edge is unsecured with an edge cover.

17. A stair steps gripper as defined in claim 8 in which the double edge is continued on the sides.

18. A stair steps gripper as defined in claim 8 in which the double edge is just on the sides.

19. A stair steps gripper as defined in claims 1-18 in which the overall dimensions of the runner can be smaller, equal or bigger than the overall dimensions of the base.