An apparatus for refacing an existing stair step without having to remove the existing step in its entirety or cause destruction to the existing step and surrounding structure includes a stair tread, a nosing, a cove moulding, a riser cap, and a shoe moulding. The tread-cap apparatus may be placed over an existing stair step, thereby overcoming the need to remove or destroy the existing stair step as is common with typical stair refinishing processes.
APPARATUS FOR REFACEING STAIR STEP

CLAIM TO PRIORITY

[0001] This application claims the benefit of our co-pending U.S. provisional patent application entitled “Retrostep Newstep” filed May 1, 2007 and assigned Ser. No. 60/927,047, which is incorporated by reference herein.

BACKGROUND OF THE DISCLOSURE

[0002] 1. Field of the Invention

[0003] The invention relates to an apparatus for renovating a stair step or set of stairs and more specifically, an apparatus for refacing a stair step or set of stairs without requiring the removal of the entire stair step or set of stairs.

[0004] 2. Description of the Prior Art

[0005] To replace or renovate a stair step or set of stairs, such as in a residence, it is often required to remove a large portion of the step and involve a large amount of labor and destruction to the stair step or set of stairs in its entirety, and to any structure surrounding the stairs. The typical process involves sanding, planing, patching, and replacing the stairs, thereby creating a large mess and disruption to any existing components of the home, such as, for example, destruction to any trim along the stairway, paneling, drywall, or flooring adjacent to the stairway. This process can also be costly and time-consuming.

[0006] Thus, there is a need to be able to replace or renovate steps or stairs without involving the problems of the above.

SUMMARY OF THE INVENTION

[0007] Accordingly, an embodiment of the present invention depicts a tread-cap apparatus for refacing an existing stair step, wherein the tread-cap apparatus includes a stair tread, a nosing, a cove moulding, a riser cap, and a shoe moulding. The tread-cap apparatus may be placed over an existing stair step, thereby overcoming the need to remove or destroy the existing stair step as is common with typical stair refinishing processes.

[0008] Another embodiment of the present invention includes a tread-cap apparatus further comprising a first substrate layer for strength, such as a cross-grained veneer layer, placed between the stair tread and the existing stair step. Another aspect of this embodiment includes a second substrate layer, such as a layer of formica, to improve the adhesion of the tread-cap apparatus to the existing stair step.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The teachings of the present invention can be readily understood by considering the following detailed description in conjunction with the accompanying drawings, in which:

[0010] FIG. 1A provides a perspective view of a tread-cap apparatus, in accordance with an embodiment of the present invention;

[0011] FIG. 1B provides an exploded view of the tread-cap apparatus shown in FIG. 1A;

[0012] FIG. 2 provides a perspective view of the tread-cap apparatus shown in FIG. 1A with a modification, in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION

[0013] To facilitate understanding, identical reference numerals have been used, where possible, to designate identical elements that are common to the figures.

[0014] An embodiment of the present invention includes a tread-cap apparatus [100] for refacing an existing stair step, as shown in perspective and exploded views in FIGS. 1A and 1B, respectively. The tread-cap apparatus [100] comprises a stair tread [102], a nosing [104], a riser cap [110], a cove moulding [112], and a shoe moulding [114]. In FIG. 1A, the nosing [104] is connected to an edge portion of the stair tread [102] and is placed adjacent to a top portion of the riser cap [110]. The cove moulding [112] connects to a bottom portion of the nosing [104]. Finally, the shoe moulding [114] is placed near a bottom portion of the riser cap [110].

[0015] To apply the tread-cap apparatus [100], an existing nosing of the existing stair step is removed along with any cove and shoe mouldings that may exist. Removal of the existing cove and shoe mouldings provide for the riser cap [106] to be flush against an existing step riser of the stair step when applied. The tread-cap apparatus [100] is then fitted onto the existing stair step with the stair tread [102] covering an existing step tread, the riser cap [110] covering the existing step riser, and the nosing [104], the cove moulding [112], and the shoe moulding [114] then being placed accordingly.

[0016] An aspect of this embodiment includes a first substrate layer [106] to provide additional strength and stress absorption to the tread-cap apparatus [100]. The first substrate layer [106] further can be used to reduce any stress to the nosing [104] and prevent the nosing [104] from breaking off. To prevent the nosing [104] from breaking, a slot joint [108] is cut into a portion of the nosing [104], beginning from a back portion of the nosing and extending partially towards a front portion of the nosing. An edge portion of the first substrate layer [106] then is inserted into the slot joint [108].

[0017] The tread-cap apparatus [100] can be applied to an existing stair step using a layer of adhesive [116], such as a polyelethylene or polyurethane based adhesive. The adhesive layer [116] is placed onto the existing stair tread and step riser, and the tread-cap apparatus [100] is placed onto the adhesive layer [116].

[0018] In another embodiment of the present invention, as shown in FIG. 1B, a second substrate layer [118] is added to the tread-cap apparatus [100] to improve the adhesion of the tread-cap apparatus [100] to the existing stair step. For example, a layer of formica may be used to provide improved adhesion between the tread-cap apparatus [100] and the existing stair step, as well as improved strength and stress-reduction.

[0019] The tread-cap apparatus [100], that is, the stair tread [102], the nosing [104], the riser cap [110], the cove moulding [112] and the shoe moulding [113], can be manufactured as individual and separate components to be connected during application. Alternately, these components may be manufactured as a single unit cut from a single piece of material. The tread-cap apparatus [100] can be made of wood, of composite materials, or a combination of wood with composite materials. Further, the tread-cap apparatus [100] can be pre-finished with any color, paint or stain to match construction surrounding the stair step or as preferred by an owner.

[0020] The components of the tread-cap apparatus [100] may be customized to any dimensions desired. For example, an embodiment of the present invention includes a tread-cap apparatus dimensionally sized to reface a common stair step...
such that the apparatus includes a stair tread having a thickness of three thirty-seconds of an inch, a veneer substrate layer having a thickness of one-eighths of an inch, a formica substrate layer having a thickness of one thirty-second of an inch, and an adhesive layer having a thickness of one thirty-second of an inch. The nosing can be dimensionally sized to have a height of one and one-fourth inches as measured from a top surface of the nosing (wherein this top surface is flush with a top surface of the stair tread when the nosing is placed adjacent to the stair tread) to a bottom surface of the nosing. The riser cap can be dimensionally sized to have a thickness of one-quarter of an inch. The cove moulding and the shoe moulding can both be dimensionally sized to have a thickness of one-half of an inch. An alternate embodiment of the present invention includes a tread-cap apparatus with a stair tread manufactured into multiple pieces to simplify the application of the apparatus to an existing stair step.

In another embodiment of the present invention, one or more substrate layers can be layered beneath the stair tread 102 with different thicknesses in different locations of each layer in order to accommodate multiple thicknesses in an existing stairway, such as, a tongue and groove flooring stairway system, illustratively.

FIG. 2 shows a tread-cap apparatus 200 similar to the tread-cap apparatus 100 as described with respect to FIGS. 1A and 1B. In FIG. 2, the tread-cap apparatus 200 comprises a stair tread 102, a nosing 104, a cove moulding (not shown), a riser cap 110, and a shoe moulding 114. Further, the apparatus 200 comprises a side cap 202 attached adjacent to a side portion of the stair tread 102 and a side portion of the nosing 104. The side cap 202 is used as a decorative trim when a side of the stair step does not abut against a stairwell wall.

Although various embodiments which incorporate the teachings of the present invention have been shown and described in detail herein, those skilled in the art can readily devise many other varied embodiments that still incorporate these teachings.

1. An apparatus for renovating an existing stair step without removing or destroying the stair step, the apparatus comprising:
   a stair tread having a front edge and a back edge;
   a nosing connected to a portion of the front edge of the stair tread, wherein the nosing has a top portion and a bottom portion;
   a riser cap having a top portion and a bottom portion, wherein the top portion of the riser cap is connected to the nosing;
   a cove moulding connected to the bottom portion of the nosing and the top portion of the riser cap; and
   a shoe moulding connected to the bottom portion of the riser cap,
2. The apparatus recited in claim 1, further comprising a first substrate layer, wherein the first substrate layer is placed between the existing stair step and the stair tread.
3. The apparatus recited in claim 2, wherein the first substrate layer is a cross-grain veneer.
4. The apparatus recited in claim 2, further comprising a second substrate layer, wherein the second substrate layer is placed between the existing stair step and the first substrate layer.
5. The apparatus recited in claim 4, wherein the second substrate layer is made of formica.
6. The apparatus recited in claim 1, wherein the nosing further comprises a slot joint, wherein the slot joint begins at a back portion of the nosing and extends partially towards a front portion of the nosing.
7. The apparatus recited in claim 6, further comprising a substrate layer placed between the existing stair step and the stair tread, wherein an edge portion of the substrate layer is inserted into the slot joint to add strength to the nosing.
8. The apparatus recited in claim 7, wherein the substrate layer is a cross-grain veneer.
9. The apparatus recited in claim 1, further comprising an adhesion layer placed between the stair tread and the existing stair step.
10. The apparatus recited in claim 9, wherein the adhesion layer is selected from the group consisting of polyethylene, polyurethane, and a combination of polyethylene and polyurethane.
11. The apparatus recited in claim 1, further comprising a side cap placed adjacent to a side portion of the stair tread and a side portion of the nosing.
12. The apparatus recited in claim 1, wherein the stair tread, the nosing, the riser cap, the cove moulding and the shoe moulding are manufactured as a single apparatus from one material.
13. The apparatus recited in claim 1, wherein the stair tread, the nosing, the riser cap, the cove moulding and the shoe moulding are manufactured as individual separate components.
14. An apparatus for renovating an existing stair step without removing or destroying the stair step, the apparatus comprising:
   a stair tread having a front edge and a back edge;
   a nosing connected to a portion of the front edge of the stair tread, wherein the nosing has a top portion and a bottom portion, wherein the nosing further comprises a slot joint, wherein the slot joint begins at a back portion of the nosing and extends partially towards a front portion of the nosing;
   a substrate layer placed between the existing stair step and the stair tread, wherein an edge portion of the substrate layer is inserted into the slot joint to add strength to the nosing;
   a riser cap having a top portion and a bottom portion, wherein the top portion of the riser cap is connected to the nosing;
   a cove moulding connected to the bottom portion of the nosing and the top portion of the riser cap;
   a shoe moulding connected to the bottom portion of the riser cap; and
   a side cap placed adjacent to a side portion of the stair tread and a side portion of the nosing.
15. An apparatus for renovating an existing stair step without removing or destroying the stair step, the apparatus comprising:
   a stair tread having a front edge; and
   a riser cap having a top portion and a bottom portion, wherein the top portion of the riser cap is connected to the front edge of the stair tread, wherein the connected stair tread and riser cap are applied over an existing stair tread and an existing riser cap, respectively.