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(54) **REFACED STAIRCASE**

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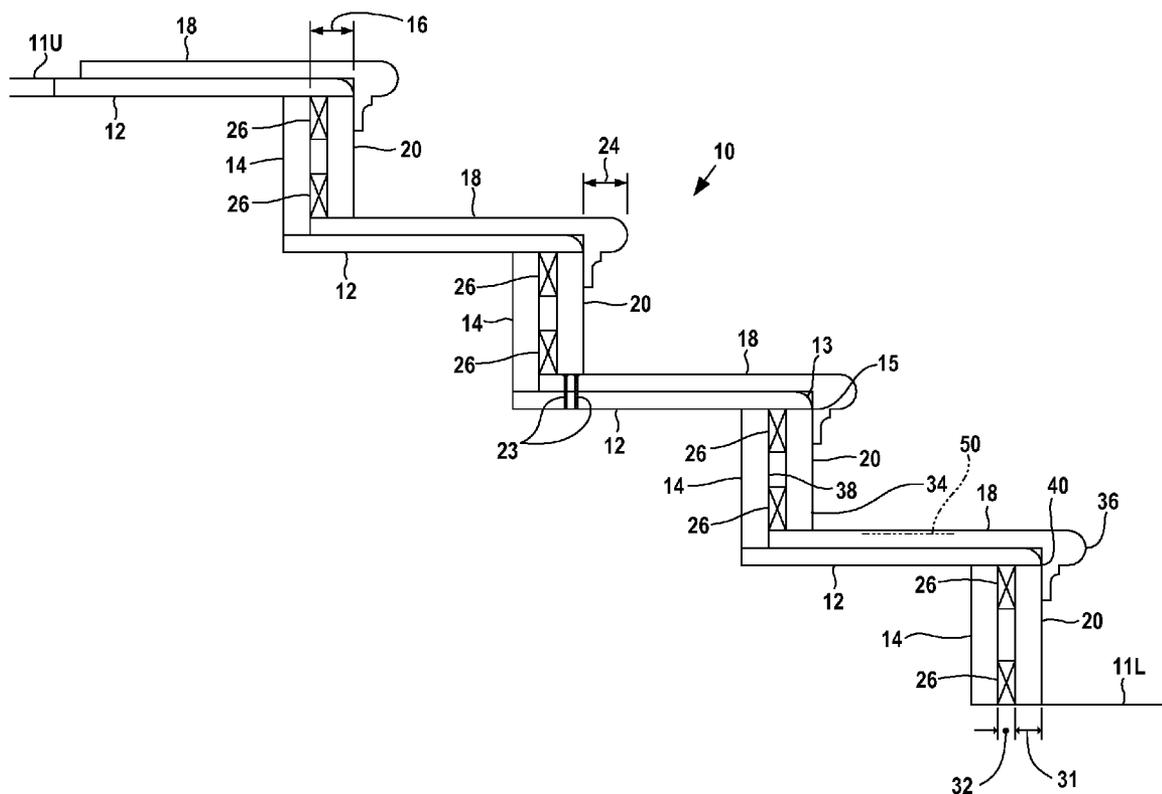
(57) **ABSTRACT**

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A refaced staircase having original treads and original risers with replacement treads and replacement risers is disclosed. The original treads include nosings that overhang the original risers. A replacement riser extends down from each original tread, the replacement tread being placed over the original tread and overhanging both the nosing of the original tread and the replacement riser. The replacement tread may include a scotia facing the original tread that hides the seam between the original tread and the replacement riser.

Related U.S. Application Data

(62) Division of application No. 13/972,323, filed on Aug. 21, 2013, now Pat. No. 8,745,937, which is a division of application No. 12/850,660, filed on Aug. 5, 2010, now Pat. No. 8,516,771.



REFACED STAIRCASE

RELATED APPLICATIONS

[0001] This application is a division of pending U.S. application Ser. No. 13/972,323 filed Aug. 21, 2013 at Attorney Docket No. 1-1312-DIV, which in turn is a division of U.S. application Ser. No. 12/850,660 filed Aug. 5, 2010 at Attorney Docket No. 1-1312, now U.S. Pat. No. 8,516,771, which in turn claims the benefit of U.S. Provisional Application No. 61/231,774 filed Aug. 6, 2009 at Attorney Docket No. 1-1312-P, each of which are incorporated by reference herein.

FIELD OF THE DISCLOSURE

[0002] The disclosure relates generally to the field of staircases, and in particular, to a refaced staircase.

BACKGROUND OF THE DISCLOSURE

[0003] A conventional residential staircase includes horizontal treads and vertical risers extending vertically between the treads. The front portion or nosing of the tread usually overhangs the adjacent riser. The overhang is typically between three-quarters of an inch and one and one-half inches in residential construction. The front end portion of the nosing is often rounded or curved, that is, has a bullnose.

[0004] Renovating an old residential staircase is often carried out by placing new treads over and against the existing old treads, and placing new risers over and against the existing old risers.

[0005] The overhanging portion of the old tread is conventionally cut off flush with the old riser before installing the new riser. The new riser is placed against the old riser and the newly exposed front surface of the cut tread.

[0006] Cutting away the tread overhangs adds to labor cost and requires cleanup of sawdust and cuttings. Furthermore, placing the new riser directly against the old riser often results in a refaced staircase that does not comply with building codes. The resulting rise/run of the refaced staircase is often such that the refaced staircase is no longer in code compliance.

[0007] Known methods of refacing a residential staircase have other disadvantages.

[0008] Jung, U.S. Pat. No. 6,960,273 discloses a method wherein a replacement tread is placed on and overhangs the old tread. A replacement riser fits in a bottom groove formed in the overhanging portion of the replacement tread and then bends back to be supported against the old riser and against the bottom of the next lower old tread. The construction is relatively expensive and so is not practical for refacing.

[0009] Abdollahi, U.S. Pat. No. 6,115,975 discloses a stair system that might be adaptable to refacing an existing staircase. The vertically spaced ends of a replacement riser is captured in grooves or dadoes formed in the upper replacement tread and a lower back molding supported on the lower replacement tread. The construction is relatively complicated and so is not practical for refacing. The back molding is visible, impairing the smooth transition between the lower replacement tread and the replacement riser.

[0010] Lopez, US Patent Application Publication 20080271390 discloses an apparatus for refacing an existing staircase. The apparatus includes a replacement tread, a nosing on the front end of the replacement tread, and a replacement riser attached to the nosing and extending from the bottom side of the replacement tread near the front end of the

tread. The nosing of the old tread is removed and the apparatus is then placed directly over the old tread. Having the replacement tread and replacement riser formed as an integral member makes the apparatus bulky to transport and handle. Installation on uneven floors can be difficult.

[0011] Defahr et al., US Patent Application Publication 20070028534 discloses a stair system in which an original staircase construction is finished with hardwood floor material to form the finished appearance of the stairs. A finishing tread preassembled from strips of wood is placed over lumber of the staircase. The lumber has a conventional rectangular cross-section. The tread has a nosing member that attaches to and covers the front face of the front-most strip. The nosing member covers the front flat face of the lumber tread. A replacement riser is attached to and bears directly against the original riser and is spaced horizontally away from the lower end of the nosing member. Although the Defahr pre-assembled tread could be used for refacing, the pre-fabricated tread is intended to be placed over treads having a rectangular cross section.

[0012] Thus there is a need for an improved refaced staircase.

BRIEF SUMMARY OF THE DISCLOSURE

[0013] Disclosed is an improved method of renovating or refacing an old staircase and the refaced staircase that results thereby. The method does not require removing the old staircase, does not require skilled labor and could even be successfully carried out by “do-it-yourselfers”, and can keep the staircase in compliance with building codes. The component parts are easy to transport, handle, and install.

[0014] The method of refacing a staircase having an existing tread with a nosing overhanging an existing riser, the nosing having a curved or bullnose front end portion includes the steps of:

[0015] (a) attaching a replacement tread over the existing tread of the staircase, the replacement tread having a nosing that overhangs the nosing of the existing tread; and

[0016] (b) attaching a replacement riser adjacent the existing riser extending above the existing tread, the replacement riser having an upper end facing the existing tread, the replacement riser and the original tread defining a seam between them,

wherein when the replacement riser and replacement tread are attached, the nosing of the replacement tread extends downwardly past the original tread to at least the seam between the replacement riser and the original tread.

[0017] The replacement riser, in possible embodiments, is flush with the front end of the original tread.

[0018] The replacement tread preferably overhangs the existing, original tread the same distance that the original tread overhangs the original riser.

[0019] The replacement riser extends from the replacement tread and preferably has the same thickness (typically three-quarters of an inch) as the tread overhang at the top of the replacement riser. The installed replacement riser is then flush with the overhanging tread. Repeat for each step, preferably working from the bottom of the stairs and up the stairs to the upper landing floor. Finish by installing a replacement tread on the upper landing floor.

[0020] Preferably the replacement treads have a thickness of ¾ inch. Many staircase renovations are undertaken because new hardwood flooring is installed on the bottom landing floor. Hardwood flooring is conventionally three-

quarters of an inch thick and the new flooring raises the elevation of the lower landing floor by the thickness of the flooring. Using a tread thickness the same thickness as the hardwood floor keeps the rise/run of the refaced staircase the same as the original.

[0021] If the staircase is refaced without changing the lower landing floor, the thickness of the replacement tread at the first step next to the lower landing floor and at the upper landing floor is preferably relatively thin, preferably about three-eighths of an inch. Using a relatively thin tread at these two end locations of the staircase will keep the rise/run of the staircase in compliance with building codes.

[0022] If the tread overhang of the original staircase is greater than three-quarters of an inch, the replacement riser can be shimmed against the original riser to be flush with the tread overhang. This maintains the same tread depth as the original tread.

[0023] Preferably the replacement tread has a nosing with a scotia that overhangs the original tread and extends downwardly beyond the upper end of the adjacent replacement riser. This covers the joint between the replacement riser and the overhanging original tread for added support of the riser and provides a desirable ornamental effect. Preferably the replacement tread and the nosing scotia are preformed as an integral piece and are prefinished for ease of handling and installation.

[0024] The replacement treads and risers are preferably cut to appropriate lengths equal to the stair width of the staircase prior to beginning installation. These cuts can be made outdoors to keep the house interior clean.

[0025] The disclosed stair refacing has a number of advantages as recited above. It can also be useful for new construction. Often staircases are manufactured off-site and then installed while the house is partially complete. Construction workers and equipment going up and down the staircase will damage the staircase. Instead, the staircase manufacture can manufacture the staircase frame off-site and workers and equipment can then use the staircase frame. A refaced staircase can be formed over the tread and risers of a staircase frame using finished hardwood risers and treads to complete a finished staircase after home construction is essentially complete.

[0026] Other objects and features will become evident as the description proceeds, especially when taken in conjunction with the accompanying drawing sheets.

BRIEF DESCRIPTION OF THE DRAWINGS

[0027] FIG. 1 is a side view of a refaced staircase; and

[0028] FIG. 2 is a side view of a replacement tread used in refacing the staircase shown in FIG. 1.

DETAILED DESCRIPTION

[0029] FIG. 1 illustrates a refaced residential staircase 10. Any previously applied carpeting or additional flooring materials were removed from the staircase prior to refacing. The staircase extends between a lower landing 11L and an upper landing 11U, and includes a number of original treads 12 and original risers 14. In the illustrated embodiment each tread 12 overhangs a riser 14 by a distance 16 of one inch. Each tread further includes a bullnose 13 located on a front edge or front end 15 of the tread 12.

[0030] The staircase 10 has been refaced using a number of like replacement treads 18 and like replacement risers 20. FIG. 2 is an enlarged view of a single replacement tread 18.

[0031] Each replacement tread 18 is placed on and supported on a respective original tread 12. The back end 22 of the replacement tread 18 butts against the original riser 14 with the replacement tread 18 overhanging the original tread 12 by a distance 24 of one inch, that is, the replacement tread 18 overhangs the original tread 12 by the same distance the original tread 12 overhangs the original riser 14. Industrial adhesive is preferably used between the replacement tread 22 and the original tread 12. The back edge of the replacement tread 18 can be nailed or otherwise through-fastened to the original tread by fasteners 23. Note that the nails or fasteners 23 being placed sufficiently towards the back edge of the replacement tread 18 are hidden by the replacement riser 20 and will not be visible when installation is completed.

[0032] The replacement treads 18 preferably have equal thickness dimensions 25 to maintain the same rise between steps, but the tread thicknesses of the uppermost and lowermost replacement treads can vary within code allowances to accommodate the transition from the landing to the stairs. For example, the lowermost replacement tread 18 may be relatively less thick to reduce the rise between it and the original lower landing 11L. FIG. 1 illustrates with the phantom line 50 the top surface of a thinner tread 18 that may be used to transition from the landing 11L to the stairs.

[0033] The illustrated replacement risers 20 are each attached to a respective original riser 14 but are spaced from the riser 14 by respective sets of shims 26 placed between the original and replacement risers 14, 20. The illustrated embodiment employs a pair of shims 26 to space a replacement riser 20 away from an original riser 14: a lower shim 26 against the lower replacement tread plate 18 and an upper shim 26 against the upper original tread plate 12. Each replacement riser 20 extends vertically from the upper surface 28 of the adjacent lower replacement tread 20 (except that the lowest riser 14 extends vertically from the lower level 11L) to the lower surface 30 of the adjacent upper replacement tread 20.

[0034] In the illustrated embodiment the replacement risers 20 each has a thickness dimension 31 of about three-quarters of an inch, that is, the thickness of the replacement risers 20 is less than the overhang distance 24. The shims 26 each have a respective thickness dimension 32 of one-quarter inch, equal to the difference between the overhang distance 24 and the riser thickness 30. The shims 26 locate the outer surface 34 of the replacement riser 20 the same distance from the front end 36 of an adjacent lower tread 18 as the outer surface 38 of the adjacent original riser 14 is from the front end 40 of an adjacent lower original tread 12. The resulting tread depth (distance from the front end of the tread to the back riser) of the replacement tread 18 is the same as the tread depth of the original tread 12 before refacing.

[0035] FIG. 2 illustrates a preferred embodiment of the replacement tread 18. The replacement tread 18 includes a flat, horizontal tread plate 42, a decorative nosing 44, and a scotia 46. The scotia 46 has a vertical inner exposed surface or face 48 that is perpendicular to the tread plate 42 and is spaced inwardly from the front end of the tread 18 the overhang distance 24. Upon installation, the scotia 46 is located immediately next to the adjacent lower replacement riser 20 and partially overlays the lower replacement riser 20 to hide the seam between the tread 18 and the lower replacement riser 20.

[0036] The replacement treads **18** are preferably manufactured to be a one-piece, pre-finished member to save time at the construction site.

[0037] The preferred method of refacing the original staircase **10** in which the thickness of the replacement risers is less than the original tread overhang is as follows:

[0038] (1) Install the first set of shims against the lowermost original riser; preferably a lower shim is braced against the lower landing and an upper shim is braced against the lower surface of the lower-most original tread, the shims sized to locate a replacement riser flush with the front of the lowermost original tread;

[0039] (2) Install the lowermost replacement riser with its cut edge (if Step 1 requires cutting the replacement riser) up adjacent the lower landing and the factory edge facing the lowermost original tread;

[0040] (3) Install the lowermost replacement tread first, using full coverage construction adhesive between the replacement tread and the original tread;

[0041] (4) Secure the lowermost replacement tread by nailing or fastening the back edge of the replacement tread to the original tread, preferably locating the nails or fasteners to be hidden by the replacement riser so as not to be visible when installation is completed);

[0042] (5) Install the next set of shims; preferably a lower shim is braced against the upper surface of the replacement tread and an upper shim is braced against the lower surface of the adjacent upper original tread (but a different shimming arrangement can be used depending on the relative height and thickness of the replacement risers);

[0043] (6) Install the next replacement riser with its cut edge (if Step 1 requires cutting the replacement riser) up adjacent the lower surface of the adjacent upper original tread and the factory edge against the replacement tread);

[0044] (7) Continue up the stairs, refacing each next upper original tread and original riser) as described in steps (4)-(6); and

[0045] (8) Trim the topmost replacement tread if necessary to match up with carpeting, flooring, or the like installed on the upper landing.

[0046] In alternative embodiments of the method the shims can be attached first to the replacement risers so that the steps of installing the shims against the original riser and installing the replacement riser against the shims are performed substantially simultaneously.

[0047] It is understood that the one or more embodiments disclosed herein are capable of modification, and we therefore do not wish to be limited to the precise details set forth, but desire to avail ourselves of such changes and alterations as fall within the purview of the following claims.

1. A refaced staircase comprising:

an original tread adjacent to an original riser, the original riser extending downwardly away from the original tread, the original tread comprising an overhanging portion overhanging the original riser and extending from the original riser to a front end, the front end being on a curved front end portion of the overhanging portion;

a replacement tread and a separate replacement riser, the replacement tread being disposed on top of the original tread, the replacement riser being disposed adjacent to the original riser and flush with the front end of the original tread, the replacement riser and the original tread defining a seam between the replacement riser and the original tread;

the replacement tread comprising an overhanging portion overhanging the front end of the original tread, the overhanging portion of the replacement tread comprising a scotia extending downwardly from said overhanging portion and being immediately adjacent the front end of the original tread, the scotia extending downwardly beyond the said seam whereby the scotia covers the seam.

2. The refaced staircase of claim **1** wherein the replacement riser is spaced away from the original riser.

3. The refaced staircase of claim **1** wherein the original tread has a tread depth and the replacement tread has a tread depth equal to the tread depth of the original tread.

4. The refaced staircase of claim **1** wherein the rise/run ratio defined by the replacement riser and the replacement tread is the same as the rise/run ratio defined by the original riser and the original tread.

5. The refaced staircase of claim **1** wherein the replacement riser extends downwardly to a second replacement tread and covers a portion of the second replacement tread, one or more fasteners extending through the portion of the second replacement tread.

6. The refaced staircase of claim **1** wherein the original riser is one of a plurality of original risers, and the replacement riser is one of a plurality of replacement risers, each replacement riser being spaced from its associated original riser by a respective set of one or more shims.

7. The refaced staircase of claim **1** wherein the original riser is one of a plurality of original risers, and the replacement riser is one of a plurality of replacement risers;

the staircase extends between an upper landing and a lower landing, a first replacement tread of the plurality of treads is adjacent to one of the upper landing and the second landing, and a second replacement tread of the plurality of treads is adjacent the first replacement tread, each of the first and second replacement treads having upper and lower surfaces separated by the thickness of the tread, wherein the thickness of the first replacement tread is different than the thickness of the second replacement tread.

8. The refaced staircase of claim **1** wherein the overhanging portion of the replacement tread extends away from the original tread to a front end portion of the replacement tread, the scotia extending downwardly past the front end portion of the replacement tread.

10. The refaced staircase of claim **9** wherein the front end portion of the replacement tread comprises a curved outer surface.

11. The refaced staircase of claim **1** wherein the original tread overhangs the original riser by a width dimension and the replacement tread overhangs the replacement riser by the same width dimension.

12. A refaced staircase comprising:

an original tread adjacent to an original riser, the original riser extending downwardly away from the original tread, the overhanging portion of the original tread comprising a bullnose on a front end of the original tread;

a replacement tread and a separate replacement riser, the replacement tread on top of the original tread, the replacement riser being adjacent the original riser and below the original tread, the replacement riser and the original tread defining a seam between the replacement riser and the original tread;

the replacement tread comprising an overhanging portion that overhangs the original tread, at least a portion of the overhanging portion of the replacement tread extending downwardly adjacent the front end of the original tread past the original tread and past the said seam.

13. The replacement staircase of claim **12** wherein the replacement riser is spaced away from the original riser and is flush with the front end of the original tread.

14. The replacement staircase of claim **12** wherein the bullnose of the original tread has a curved surface extending from the front end of the original tread towards the replacement tread.

15. The replacement staircase of claim **12** wherein the replacement tread overhangs the replacement riser by the same amount the original riser overhangs the original riser.

16. The replacement staircase of claim **12** wherein the overhanging portion of the replacement tread comprises a flat surface facing the original tread and the replacement riser.

17. A method of refacing a staircase having an original tread and an original riser extending downwardly from the original tread with a replacement tread and a replacement riser, the original tread having a curved nosing overhanging the original riser and extending away from the original riser to a front end of the original tread, the method comprising the steps of:

(a) attaching the replacement riser beneath the original tread adjacent to the original riser and flush with the front end of the original tread; and

(b) attaching the replacement tread over the original tread with a nosing of the replacement tread overhanging the nosing of the original tread, the nosing of the replacement tread comprising a scotia extending downwardly past the original tread;

wherein when the replacement tread and the replacement riser are both attached, the scotia of the replacement tread extends downwardly to at least an upper end portion of the replacement riser.

18. The method of refacing the staircase of claim **17** wherein when the replacement tread and the replacement riser are both attached, the scotia of the replacement tread comprises a flat surface facing the original tread and the replacement riser.

19. The method of refacing the staircase of claim **17** wherein the original riser and the original tread define a rise/run ratio and wherein when the replacement tread and the replacement riser are both attached, the replacement riser and the replacement tread define the same rise/run ratio.

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