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(54) Step for staircases

(57) A step of staircases is defined by an inner core (6, 18, 22, 24), featuring two major faces (10) which are substantially parallel with a treading surface (P) of the step itself and a lateral contour closed in the shape of a ring extending between the major faces (10), and by an outer lining (7, 25) which extends around the inner core (6, 18, 22, 24) so as to fully cover the said inner core (6,

18, 22, 24), and features a lateral edge closed in the shape of a ring around the lateral contour, and two panels (16), each of which is arranged so as to be in contact with a pertinent major face (10) and the lateral perimeter (7a) and shows a surface at least equal to the surface defined by the pertinent major face (10) and by the lateral edge.

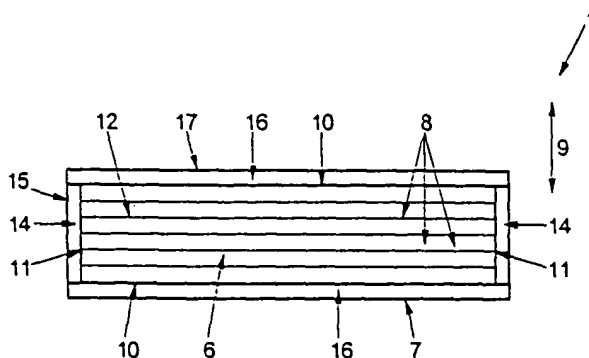


fig. 2

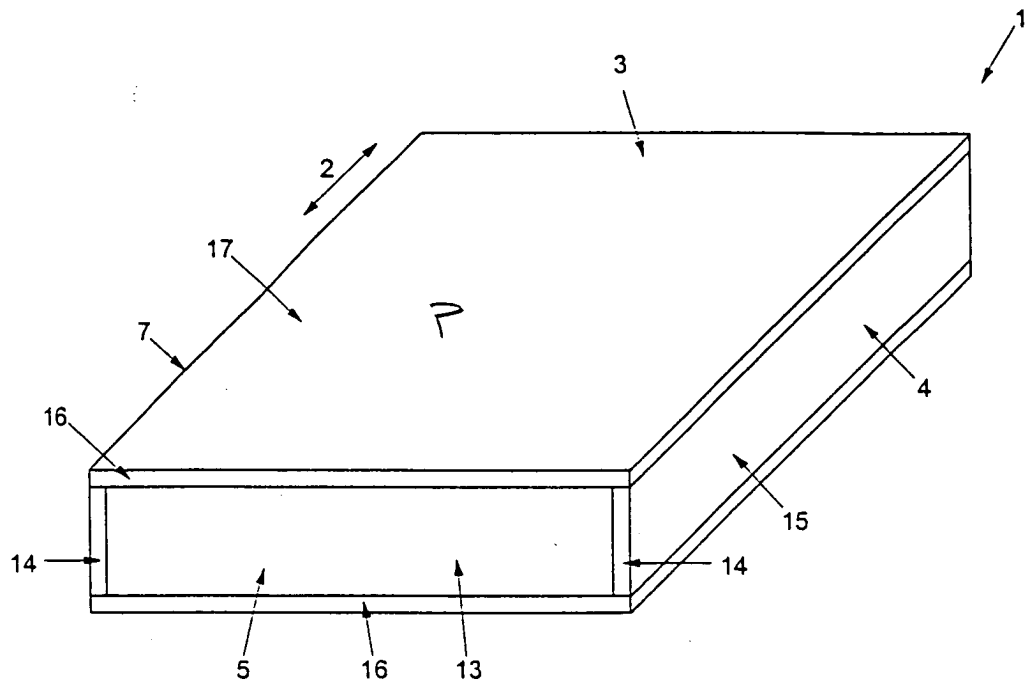


fig. 1

Description

[0001] The present invention relates to a step for stairways or staircases.

[0002] In particular, the present invention relates to a step consisting of wood or the like, to which the following presentation will make explicit reference but without forsaking any of its general aspects.

[0003] The process is known, in the field of stairway construction, of constructing a wooden step featuring two major lateral faces that are substantially parallel to each other, one of which defines a treading surface, and evidencing a given thickness measured in a first direction that is orthogonal to the said major lateral faces.

[0004] There are currently on the market different kinds of wooden steps. According to one kind, the step is made of one piece and evidences some drawbacks due mainly to the fact that the step is characterised by relatively reduced dimensions since there are in nature no trees from which one could gain one-piece steps of relatively large dimensions.

[0005] According to two further types the step is made up of a number of flat panels stacked on top of each other in the first direction and joined to one another e.g. by using glue, or alternately consisting of a number of lengthy elements placed side to side in a second direction parallel to the major lateral faces and joined to one another e.g. by means of glue.

[0006] The two additional known kinds of steps described above have some shortcomings due particularly to the fact that each panel or extended element of the step is visible at least in part and must therefore be made, for obvious aesthetic reasons, of relatively high-quality lumber, so that the step turns out relatively costly.

[0007] The present invention herein is intended to make a step for stairways which will lack the above drawbacks and can be manufactured in a manner that is simple and economical.

[0008] In one embodiment of the present invention, there is provided a step for staircases featuring a treading surface and comprising an inner core featuring two major faces which are substantially parallel with a treading surface of the step itself and an inner lateral contour closed in the shape of a ring extending between the major faces; and an outer lining which extends around the said inner core so as to fully cover the said inner core, the outer lining comprising a lateral edge closed in the shape of a ring around the inner lateral contour, where each such major face together with the lateral edge defines a well defined first surface; and characterised by the outer lining further comprising two first panels each of which is arranged so as to be in contact with a pertinent such major face and with the lateral edge and evidences a surface at least equal to the said first surface.

[0009] Embodiments of the present invention will now be described by way of further example only and with reference to the accompanying drawings, in which:

Figure 1 is a schematic perspective view of a preferred form of implementation of the step for stairways according to this invention;

Figure 2 is a side view, with some parts removed for clarity, of the step shown in Figure 1;

Figures 3 and 4 illustrate two variations of the step shown in Figures 1 and 2; and

Figure 5 is a top view of another variation of the step shown in Figures 1 and 2.

[0010] With reference to Figure 1, 1 indicates as a whole a step for stairways (not shown) with a shape that is substantially a parallelepiped with a substantially rectangular cut, which extends in a certain direction 2 and features two major lateral faces 3 and that are substantially parallel to one another, one of which defines a treading surface P of the step 1, two minor lateral faces 4 that are substantially parallel among each other and perpendicular to the faces 3, and two minor lateral faces 5 that are substantially parallel among each other and orthogonal to the faces 3 and 4 and to the direction 2.

[0011] According to what is being illustrated in Figure 2, the step 1 includes an inner core 6 and an outer lining 7 which extends around the core 6 so as to wholly cover the said core 6.

[0012] The core 6 has a substantially parallelepipedic shape with a substantially rectangular cut, and it is defined in this instance by several flat panels 8 stacked on top of each other in a direction 9 that is orthogonal with respect to the faces 3, and features two major lateral faces 10 parallel to one another and to the faces 3, two minor lateral faces 11 that are parallel among themselves and with respect to the faces 4, and two minor lateral faces 12 parallel to one another and to the faces 5.

[0013] Hence, the core features a lateral contour closed in the shape of a ring, defined by the faces 11 and 12, extending between the faces 10 and substantially orthogonal with respect to the faces 10.

[0014] The lining 7 comprises two flat panels 13 each of which is arranged so as to be in contact with a face 12, and features a surface equal to the surface of its pertinent face 12, and two flat panels 14, each of which is arranged so as to be in contact with a pertinent face 11 and of panels 13, and features a surface 15 equal to the surface defined by its pertinent face 11 and by the panels 13.

[0015] Based on what has been outlined above, it follows that the panels 13, together with the panels 14, define a lateral edge closed in ring-shape around the lateral contour.

[0016] Finally, the lining 7 comprises two flat panels 16, each of which is arranged to be in contact with a pertinent face 10 and with the panels 13 and 14, and features a surface 17 equal to the surface defined by the pertinent face 10 and by the said panels 13 and 14 and thus equal to the surface defined by the pertinent face 10 and by the lateral edge.

[0017] In connection with what is being outlined above it should be pointed out that each panel 13, 14 and 16 features a thickness of at least 5 millimetres.

[0018] The variation shown in Figure 3 differs from what has been shown in the preceding figures only by the fact that in it the core 6 is replaced by a core 18, which features a lateral contour and comprises a number of lengthened elements 19 which extend toward the direction 2 and are arranged side by side in a direction 20 which is orthogonal to the directions 2 and 9. The core 18 further comprises two flat panels 21, which are positioned on opposite stripes of elements 19 in the direction 9, placed on top of the elements 19, joined with the said elements 19 e.g. by gluing, and each define one of the faces 10.

[0019] The variation shown Figure 4 differs from what has been shown in the preceding figures only by the fact that in it the core 6 is replaced by a core 22 made of one single piece and featuring a lateral contour.

[0020] The variation shown in Figure 5 relates to a step 23 comprising an inner core 24 which, when seen from above, features an essentially trapeze-like shape and features a lateral contour and an external lining 25 similar to the lining 7 and evidencing, when seen from above, a trapeze-like shape with rounded edges.

[0021] Since the inner cores 6, 18, 22 and 24 are entirely wrapped inside their relevant linings 7 and 25 and are thus not visible, the inner cores 6, 18, 22 and 24 are themselves made of relatively low-quality materials and the corresponding steps 1 and 23 are therefore relatively low in cost.

[0022] It must finally be pointed out that the inner cores 6, 18, 22 and 24 and the corresponding linings 7 and 25 can be made of one and the same kind of wood, e.g. beechwood, or from different kinds of wood, e.g. birch for the cores 6, 18, 22 and 24, and beechwood of the linings 7 and 25.

[0023] The foregoing description has been given by way of example only and it will be appreciated by a person skilled in the art that modifications can be made without departing from the scope of the present invention.

Claims

1. A step for staircases featuring a treading surface (P) and comprising an inner core (6, 18, 22, 24) featuring two major faces (10) which are substantially parallel with a treading surface (P) of the step itself and an inner lateral contour closed in the shape of a ring extending between the major faces (10); and an outer lining (7, 25) which extends around the said inner core (6, 18, 22, 24) so as to fully cover the said inner core (6, 18, 22, 24), the outer lining (7, 25) comprising a lateral edge closed in the shape of a ring around the inner lateral contour where each such major face (10) together with the lateral edge

defines a well defined first surface (17); and **characterised by** the outer lining (7, 25) further comprising two first panels (16) each of which is arranged so as to be in contact with a pertinent such major face (10) and with the lateral edge and evidences a surface at least equal to the said first surface (17).

2. The step according to claim 1, wherein said each first panel (16) and the lateral edge feature a thickness equal to at least 5 millimetres.
3. The step according to claim 1 or claim 2, wherein said inner core (6, 18, 22, 24) is made of wood or the like.
4. The step according to any of the preceding claims wherein said outer lining (7, 25) is made of wood or the like.
5. The step according to any of the preceding claims wherein said inner core (6, 28, 22, 24) and the said outer lining (7, 25) are made of one and the same kind of wood.
6. The step according to any of the preceding claims 1 through 4 wherein said inner core (6, 18, 22, 24) and the said outer lining (7, 25) are made of different kinds of wood.
7. The step according to any of the preceding claims wherein said inner lateral contour comprises two first minor lateral faces (11) and two second minor lateral faces (12); and said lateral edge comprises two second panels (13) arranged so as to be in contact with the said second minor lateral faces (12) and two third panels (14) arranged so as to be in contact with the said first minor lateral faces (11).
8. The step according to claim 7, wherein said each first minor lateral face (11) defines, together with the said second panels (13), a well-defined second surface (15), with each third panel (14) featuring the said second surface (15).
9. The step according to any of the preceding claims, wherein said inner core (22) is made of one single piece.
10. The step according to any of the claims 1 through 8, wherein said inner core (6) comprises a number of flat elements (8) stacked on each other in a direction (9) that is orthogonal with respect to the said major faces (10).
11. The step according to any of the claims 1 through 8, wherein said inner core (6) comprises at least two lengthened elements (19) arranged next to one another.

other and two further flat elements (21) which are positioned on opposite stripes of said lengthened elements (19) in a direction (9) that is orthogonal with respect to the said major faces (10) with each said flat element (21) defining a corresponding said major face (10). 5

12. A staircase comprising a number of steps made in accordance with what has been claimed in the preceding claims. 10

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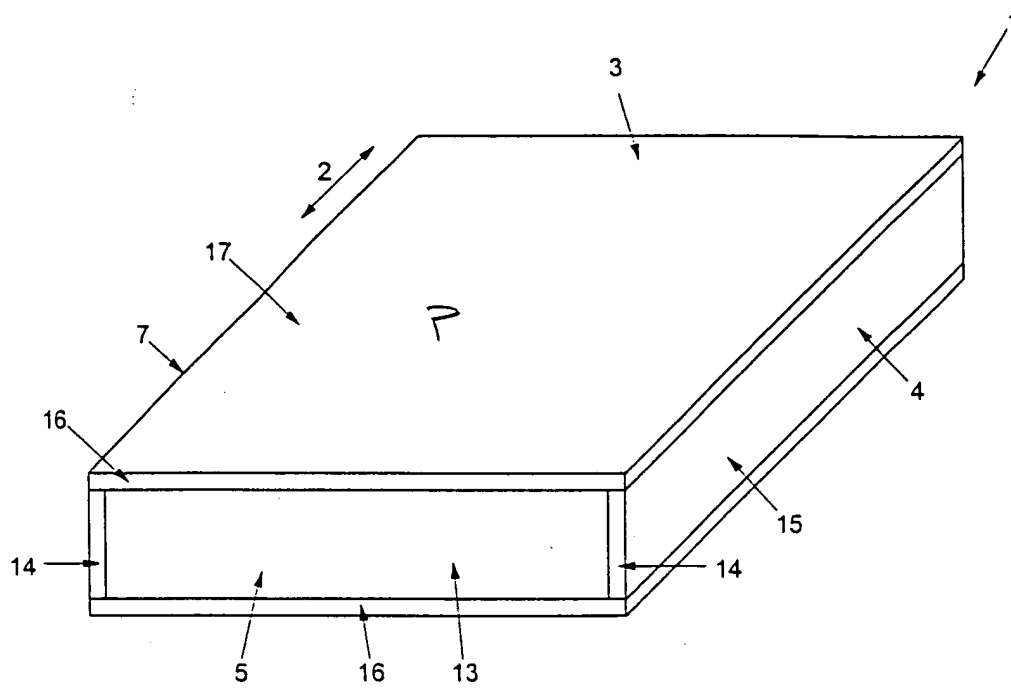


fig. 1

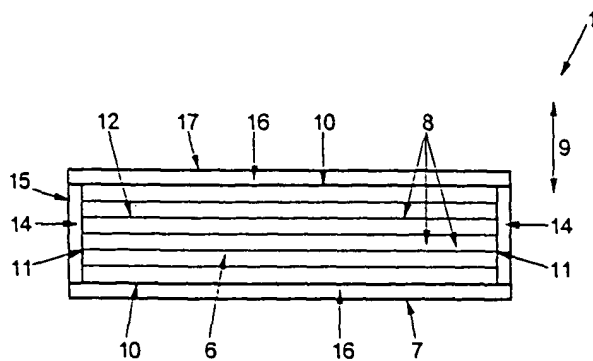


fig. 2

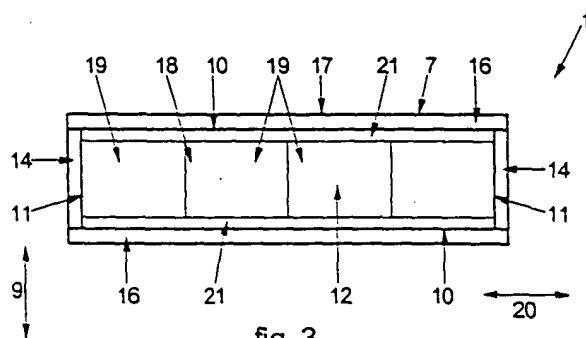


fig. 3

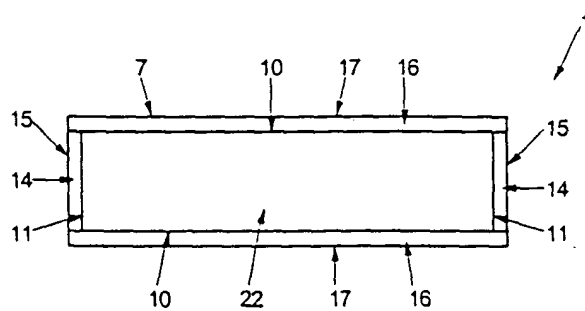


fig. 4

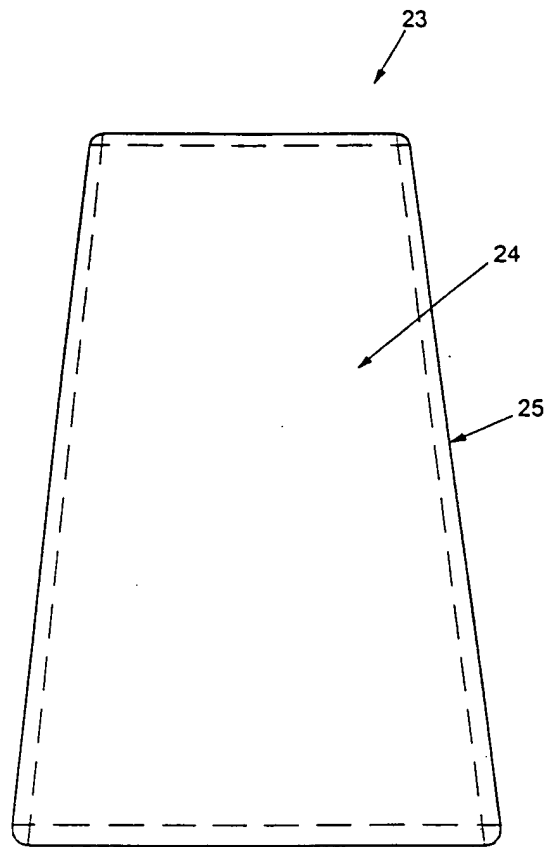


fig. 5



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EUROPEAN SEARCH REPORT

Application Number
EP 03 25 8096

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	FR 2 255 442 A (KENNGOTT KG) 18 July 1975 (1975-07-18) * page 4, line 30 - line 32 * * page 11, line 33 - page 12, line 20; figures 1,2,9 *	1-10,12	E04F11/104 E04F11/108
X	--- PATENT ABSTRACTS OF JAPAN vol. 1999, no. 02, 26 February 1999 (1999-02-26) -& JP 10 299206 A (DANTANI PLYWOOD CO LTD), 10 November 1998 (1998-11-10) * abstract *	1-8,11	
X	--- DE 203 08 128 U (KWIATKOWSKI ERNST ;HAEMKER HEINZ (DE)) 23 October 2003 (2003-10-23) * figure 2 *	1,3-7,10	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 17 May 2004	Examiner Severens, G
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 03 25 8096

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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